MARCH
1956

fueloil & oil heat

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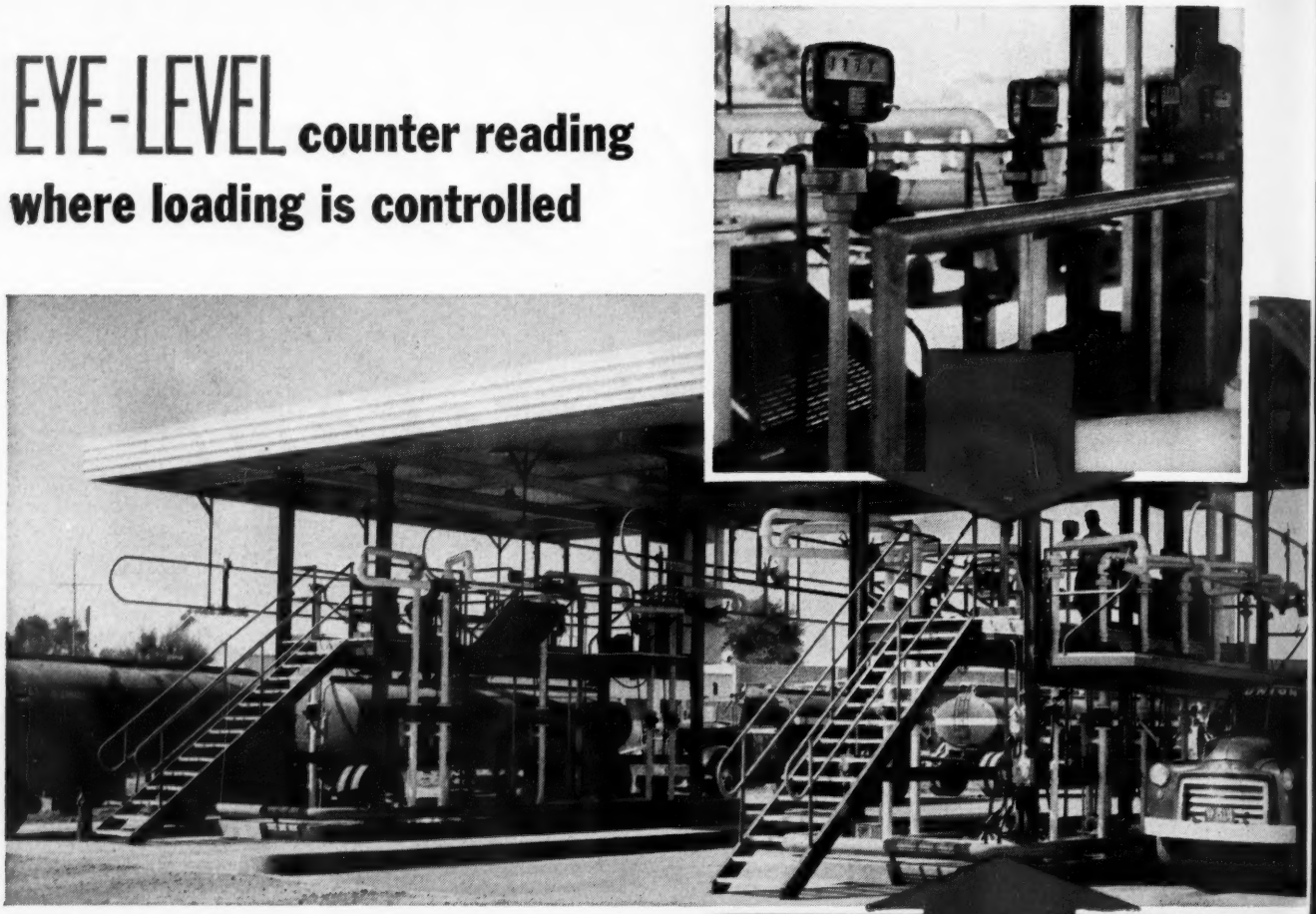
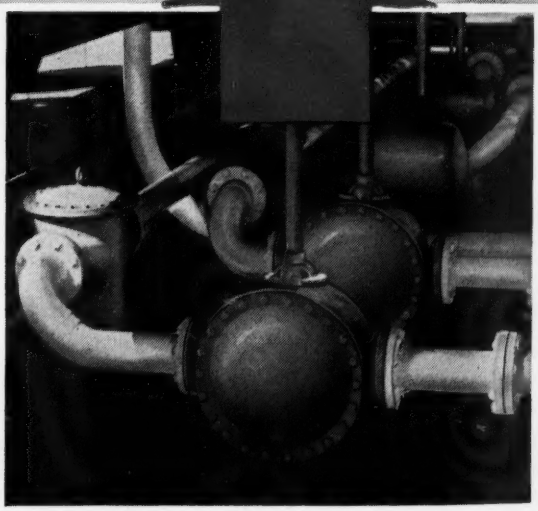
EYE-LEVEL counter reading where loading is controlled



BELOW-THE-RACK meters keep operating areas clear

This new modern loading rack of Union Oil Company of California shows the practical adaptability of Brodie Metering Systems to operating needs. Installed beneath the rack for simplest piping arrangement, Brodie BiRotor Meters and Strainers are out of the way of operating personnel yet readily accessible at all times. Direct-reading Brodimatic Counters mounted on Brodie rigid extensions permit easy eye-level readings to control loading operations. Swivel adaptors permit counters to be faced in any direction even while the meter is operating.

For high sustained accuracy and low maintenance, let Brodie BiRotor Meters adapt themselves to your needs, today.



Counters are raised for easiest eye-level reading.

Meters are installed out-of-the-way, yet readily accessible.

BRODIE ALL-STEEL BiRotor TRUE-ROTARY **METERS**

RALPH N. BRODIE COMPANY • San Leandro, California, U.S.A.

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REPRESENTATIVES WITH STOCKS AND SERVICE FACILITIES IN ALL PRINCIPAL CITIES

MARCH fueloil & oilheat 1956

VOLUME 15 NUMBER 3

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CANADIAN: $4.00

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Among other things . . .

You might not believe that it's a serviceman who's holding that oilburner nozzle so delicately on the front cover, but it is. Just happens the scene was shot on a Monday morning, the man knew it was going to be taken and he used the week-end to do an extra special job on his hands. His wife helped, too.

The array of features this month starts with a discussion of new safety standards issued by Underwriters'. John Schulz examines them from the standpoint of how the oilheating dealer can benefit from a knowledge of the Underwriters' rules and regulations under which oilburners are designed and built.

In the Commercial-Industrial Oilburning Section Gerald Bohn presents ways and means for "Handling and burning Today's No. 6 Oils," outlining the three principal steps to follow in designing such systems. It's an outgrowth of the Bureau of Mines survey of fueloils, a summary of which was published in our January issue.

BEARLEE

Tattle-Tale

TRADEMARK

OIL TANK

GAUGES

Underwriters Listed

●

WITH THE

NEW

Spring Steel

Flexible

FLOAT ROD

For

42" and 44" Tanks

●

Dealers . . . Don't delay . . . write today for our low prices.

Dealers that have had this new "Tattle-Tale" Gauge have reordered.

They report customers like this new trouble-free . . . easy to install gauge and particularly like the new Flexible Float Rod. Why don't you try it? It will pay you to stock it.

Bearlee

"Tattle-Tale" Gauges

MANUFACTURED BY

homeward Products, Inc.

3420 S. W. 9th St.

Des Moines, Iowa

Tattle-Tale Is a Registered Trade Mark

Names in the News

Albert C. Esser, who had been circulation director of FUELOIL & OIL HEAT since December 1950, died suddenly on February 4 at his home in Bronxville, N. Y. Esser, prior to joining Heating Publishers, was circulation manager for Haire Publications for seven years. In addition to his circulation duties, he kept active in magazine subscription associations, being a past chairman of the Business Publications Circulation Council. He is survived by his wife, a daughter, three brothers and a sister.

Herman W. Nelson, 79, a pioneer in the heating and ventilating industry died recently in Moline, Ill., after a long illness. In 1906 he founded the Moline Vacuum Heating Co. which later became known as the Herman Nelson Corp., and was merged with American Air Filter Co., Inc. in 1950. His company developed the Univent which was a forerunner of the unit ventilator. He is survived by his wife, a daughter, and two sons, Richard and Robert, who are both vice presidents of American Air Filter Co.

David V. Smith has been appointed director, Oil Heating Training Division, Massachusetts Trades School, Boston. He will be responsible for formulating and supervising all training programs within the Division.

Smith began his association with the petroleum industry in 1932 as a station attendant for Socony-Vacuum. In 1936 he became general sales manager for one of Sacony's Massachusetts areas.

Donald L. Rheem, former executive vice president and co-founder of the company, has become chairman, Rheem Mfg. Co. In turn, A. L. Walker succeeds Rheem as executive vice-president and continues as vice-president of Rheem International. Emerson S. Ronk becomes vice-president for administration.

Paul O. Penn has been named to the newly-created position of assistant to the president, Penn Controls, Inc., Goshen, Ind. He will develop policies and procedures for improved coordination of sales, engineering and manufacturing functions.

Penn has been with the company since 1930 and most recently served as assistant to the vice president—director of sales.

James G. Tuthill has been elected president, Tuthill Pump Co., Chicago. He succeeds *H. T. Kessler* who retired from active service. Tuthill is a grandson of the founder of the company and the son of the late chairman of the board. He joined the organization in 1953.

Frank C. Ware has been appointed executive vice president, Aetna Oil Co., division of Ashland Oil & Refining Co., Ashland, Ky. He succeeds *Dr. Clive M. Alexander* who retired recently. Ware has been associated with Ashland Oil & Refining since 1934 and was promoted to regional sales manager in 1951. Dr. Alexander had been associated with Aetna for the past 25 years. He has been a director and vice

THREE BIG STEPS TO BIGGER HEATING OIL SALES

1

GOOD PRODUCT:

Atlantic distributors sell famous triple-refined Atlantic Heating Oils with the new additive that insures clean burning.

2

SALES TRAINING:

Every Atlantic distributor can take advantage of an intensified sales training program that makes his job easier, his sales efforts more productive.

3

ADVERTISING SUPPORT:

Atlantic provides a strong co-operative advertising program for its distributors, using TV, radio, direct mail, and newspapers to help build sales.

In addition to a fine product, Atlantic distributors can count on a continuous, dependable supply. Heating oils are available to you at conveniently located pipe line and water terminals.

ISN'T ALL THIS WORTH INVESTIGATING?

TERMINALS AT:

Providence, R. I.	Gloucester, N. J.	Northumberland, Pa.	Wilmington, N. C.
New Haven, Conn.	Bridgeton, N. J.	Philadelphia, Pa.	Spartanburg, S. C.
Albany, N. Y.	Boston, Mass.	Pittsburgh, Pa.	Albany, Ga.
Binghamton, N. Y.	Akron, Ohio	Reading, Pa.	Atlanta, Ga.
Buffalo, N. Y.	Allentown, Pa.	Williamsport, Pa.	Griffin, Ga.
Elmira, N. Y.	Altoona, Pa.	Wilmington, Del.	Macon, Ga.
Rochester, N. Y.	Exton, Pa.	Baltimore, Md.	Savannah, Ga.
Syracuse, N. Y.	Greensburg, Pa.	Salisbury, Md.	Jacksonville, Fla.
Wayland, N. Y.	Johnstown, Pa.	Richmond, Va.	
Newark, N. J.	Lebanon, Pa.	Charlotte, N. C.	
Trenton, N. J.	Mechanicsburg, Pa.	Greensboro, N. C.	

ATLANTIC
HEATING OILS

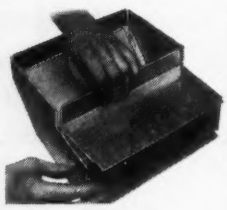
DUC-PAC

"THEY ALL GO TOGETHER"

Prefabricated Fittings

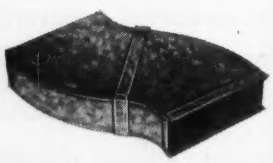
CUT YOUR COSTS

. . . on Handling



Duc-Pac unassembled fittings, individually banded and identified, offer space-saving compactness that permits stocking ahead. Duc-Pac fittings PRESS together **in seconds** . . . eliminate need for any "hammering-over" of edges.

. . . on Installation



Drive cleat and "S" lock fitting-to-fitting connection saves time . . . simplifies installation in hard-to-get-at places . . . generally eliminates any need for special fittings . . . permits **one** man to hang trunk line.

Write for complete information on Duc-Pac . . . practical pre-fab fittings for all domestic and light commercial heating or air conditioning duct installations.

DUC-PAC, Inc.

EAST LONGMEADOW, MASSACHUSETTS

president since 1939 and executive vice-president since 1951.

Patrick N. Morgan has been appointed manager of sales, heating and airconditioning of the Home Equipment Division, Combustion Engineering, Inc., Chattanooga, Tenn. He had been sales representative in the Ohio-Michigan Diistrict.

Fred S. Hudson has been named general manager of sales, Heating and Airconditioning Division, National - U. S. Radiator Corp., Johnstown, Pa. He joined National Radiator in 1936, and most recently has been in charge of marketing operations in the Pittsburgh, Cincinnati and Cleveland offices.

Edward G. Jepson has been appointed advertising manager, C. A. Dunham Co., Chicago. He succeeds *J. W. O'Neil* who has resigned. Jepson has been in the advertising and sales promotion section of E. I. DuPont de Nemours and Co.

Roy W. Gronauer has been elected vice president in charge of sales, OPW Corp., Cincinnati, O. He joined the company, manufacturers of valves, fittings and assemblies, as a sales engineer in 1950; became assistant general sales manager in 1952 and general sales manager in 1955.

George S. (Scotty) Elder has been appointed a field engineer, Econo Products Co., Inc., East Haddam, Conn. Elder is well known in the industry and one of the old timers in the oilheating business.

Robert O. Goodykoontz has been named assistant general manager of marketing, Esso Standard Oil Co. He began his career with Esso in 1930 and worked in various divisions until he was named Southern Region manager in 1954.

Other marketing changes announced by Esso include the naming of *Alex A. Diffey* as manager, North Carolina Sales Division. He succeeds *Herbert R. Dowd* who became Southern Region manager.

R. V. Clark has been appointed sales manager, New Products Division, Acro Manufacturing Co., Columbus, O. Formerly with Penn Controls Co. as manager of heating control sales he brings to Acro 25 years' of experience in the automatic control field.

L. H. Kramer has been named general manager, Heating and Cooling Division, Union Asbestos & Rubber Co., Chicago. Prior to joining Unarco, Kramer had been executive vice president and general manager, American Well Works. He also had been general manager of the Batavia factories of U. S. Challenge.

H. D. Conkey died at Miami, Fla., January 15 at the age of 78. He was president and founder of H. D. Conkey & Co., Mendota, Ill., which includes the Conco Engineering Works, Conco Building Products, Inc., and Field Control Division.

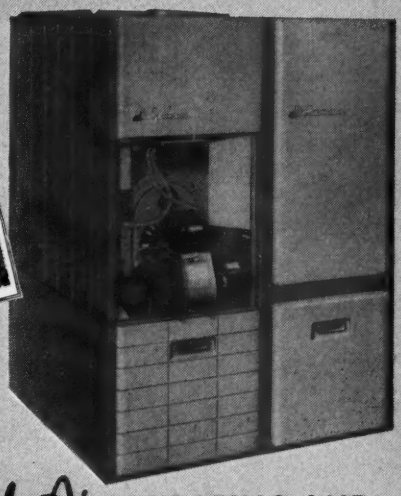
(*Please turn to page 154*)

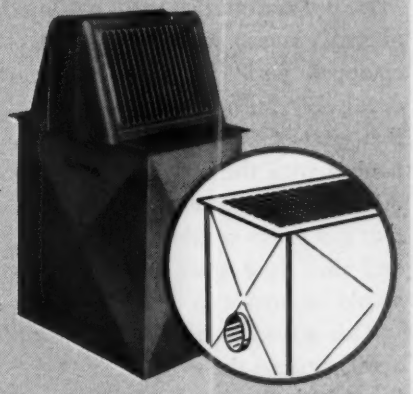
more homes heat with Coleman than any other brand!

the TOP deal for TOP dealers

In oil-fired equipment, only Coleman gives you a line that lets you sell every prospect, no matter what his heating needs. And Coleman backs up your local sales program with the most powerful advertising and sales promotion helps in the industry. Let us show you how you can do a bigger volume with higher profits. Write today!

the only system backed by $1000 BOND





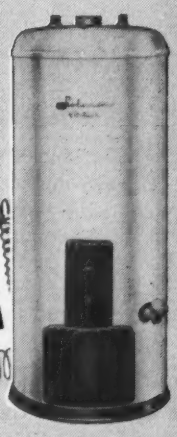
Blend-Air® HEATING AND COOLING. Only completely prefabricated system — slashes inventory and labor costs. Vertical and console oil furnaces for new homes or modernization. Plenum and vertical cooling units for Coleman Blend-Air or other forced air furnaces.

World's Most Famous Oil Heater with automatic oil saver that can give a week's free heat each month! Can save enough to pay for heater! Sizes to heat single room or whole home.

World's Lowest Priced Central Heating Plant. Gives the best circulation of *any* oil floor furnace — makes any home easy to heat! New models equipped with fully automatic *Electric Ignition.*

Coleman VIT-ROCK Gas Water Heaters. Two big exclusives help you sell! Exclusive rock lining that can't rust, ever! Plus the strongest guarantee for any water heater . . .

backed by EXCLUSIVE 10-YEAR $500 Warranty Bond



NATIONALLY ADVERTISED in

- LIFE
- Saturday Evening POST
- HOUSEHOLD
- SUNSET
- SMALL HOMES GUIDE

NEW! Coleman's HOME COMFORT PAYMENT PLAN

Lets you offer

Easiest Terms & Down!

No risk for you, no red tape!
And you close extra sales with
NO DOWN PAYMENT — 3 YRS TO PAY!

COLEMAN SINCE 1900 — makers of lamps, lanterns, camp stoves, home heating and air conditioning

The Coleman Company, Inc.
Wichita 1, Kansas

The Coleman Company, Inc.
Dept. FOH-552 Wichita 1, Kansas

☐ Please send complete information on your oil-fired line of heating, plus Blend-Air cooling and Vit-Rock Water Heaters. ☐ Send details of the Coleman Home Comfort Payment Plan.

Name _____

Firm Name _____

Address _____

Town _____ Zone____ State____

Editorial Leaks

IN THE BATTLE to stop the Harris Bill and before the President had announced his veto of it, the mayors of several cities started putting pressure on President Eisenhower. Mayor Eric Hoyer, Minneapolis, wired the President protesting its passage.

He pointed out that many thousands of small homes in Minneapolis were equipped with Type B flues which could only burn gas. He pointed out that most of these homes had been financed with the aid of the Veterans Administration or FHA. He was afraid that gas prices would go up seriously, and that these small income families would be unable to heat their houses.

This served to highlight to Minneapolis citizens the evils of the Type B flue which can handle only one fuel.

❖

THE PUBLIC REACTION to the battle over the Harris bill was probably more influenced by the scare tactics of its opponents than by the merits of the case. A small group of large gas utilities put out a lot of publicity to the effect that if the bill was signed the nation's gas consumers would hardly be able to afford to burn this fuel.

Not only did the gas utilities and their lobbying committee do a lot of public relations and advertising work, but even the United Automobile Workers bought full page ads under the heading "Stop the great gas Robbery."

We heard of three large development builders in the New York area who held off a decision on what fuel to use until they saw the results of the voting on the bill. They were not so much concerned over the possibility of increases in gas heating costs as they were over the public fear of gas heating costs generated by pressure groups.

Had the bill been signed we believe that the cost at the wells would have gone up but that cost to the consumer would not have risen for some time. The initial cost of gas in the field is a trivial part of the consumer price. The enormous publicity given the threat of higher prices, however, will react in our favor.

❖

THE OIL HEAT INSTITUTE of Washington, Seattle, announces that it is now taking off-shore members. Its newest recruit is the Sourdough Express of Fairbanks, Alaska . . . owner and manager, Lee Schoenfeldt. Any time now we should be hearing that the new Miami, Fla., group has members in the Virgin Islands.

❖

AN INTERESTING ANGLE comes from Pat Clark, executive secretary of the Oil-Heat Association of Maryland. He points out that fueloil distributors are constantly being asked for contributions to advertise in private publications, annuals, programs, etc., for social, school and lodge affairs. Oilmen don't like to turn these things down because it creates ill-will, and also because the advertising space is quite inexpensive. At the same time they don't always want to use regular advertising copy because they feel it gets them on a list that makes them fair game for every such promotion.

Clark suggests that when these things come up the oilmen use the space to insert some type of slogan that glorifies oil heat in general. In Baltimore he proposes that they use the current theme "Oil Heat gives 110,000 extra heat Units per dolar."

❖

AT THE FALL CONVENTION of the Empire State Petroleum Association, Mr. Charles Turner of *LP-Gas* made a plea to fueloil men to go into the LPG business in order to meet natural gas competition. We have for some years believed that LP-gas is more closely tied to the fueloil business than it is to the gas utility business. It is delivered by truck to specific customers who are served on a degree-day basis.

Not only that, but the growth of the LP-gas marketer is very much tied to the sale of gas consuming equipment, just as we have in the fueloil business. The major oil companies are beginning to recognize the potential tie-up between fueloil and LP-gas.

For example, at the head office of Shell Oil Co., New York, the former fueloil division manager, J. L. Minner, some months ago was made manager of the fueloil and LP-gas department. Coleman Mockler was made manager of the fueloil division within that department.

We should like to see more fueloil men go into the LP-gas business, and during the past several years have had four feature articles showing successful examples of this tie-up. One was based on a company in Portland, Ore.; another in San Jose, Calif.; a third in Marshfield, Wisc.; and the fourth in Charleston, S. C.

There is one considerable advantage to this business that makes it somewhat unique. Not everyone can make a success of it, and the principal deterrent is the capital requirement. Most oilmen who have gone into the LP-gas business tell us that you should be in the position to invest $50,000 before it begins to pay off.

If this subject is of particular interest to you we would be glad to exchange views.

❖

THE AIRCONDITIONING business—and by that we mean complete home cooling—seems to have passed the 100,000 mark in new installations for the first time in 1955. The Airconditioning and Refrigeration Institute, Washington, D. C., gives us estimated factory shipments for the past four years. In 1952, this was 15,000 units; in 1953, shipments were 55,000 units; and in 1954, 70,000 units. Some manufacturers have estimated that 1955 installations were as high as 125,000 and the Institute does not disagree with this figure, although factory shipments were only 100,000.

The difference may lie in locally assembled installations that left the factories in bits and pieces. In any event, home cooling has passed an important milestone and seems about ready to go places.

There is only ONE VENTALARM

T. M. REG. U. S. PAT. OFF.

TANK FILL SIGNAL

"Just fill 'til the whistle stops"

Stem is easily cut to provide any predetermined safety expansion zone desired within the tank. In addition to the safety feature, this permits a consistent fill program regardless of variations among tanks.

There are no maintenance problems because VENTALARM Signal operates on the movement of air alone. It lasts the lifetime of the tank.

The term "VENTALARM" is a trade-mark registered in the United States Patent Office, in twenty-nine individual States, and in many foreign countries. This trade-mark term "VENTALARM" applies solely to liquid level indicators manufactured by Scully Signal Company and Scully Signal Limited.

Over 4,000,000 VENTALARM Signals now installed. Saves up to 30% on delivery costs.

SCULLY SIGNAL COMPANY

174 Green Street, Melrose 76, Mass.

Canadian Branch: SCULLY SIGNAL LTD., 286 King St. W., Toronto, Ontario

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Contact your Regular Supply House for all these forms of VENTALARM Signal

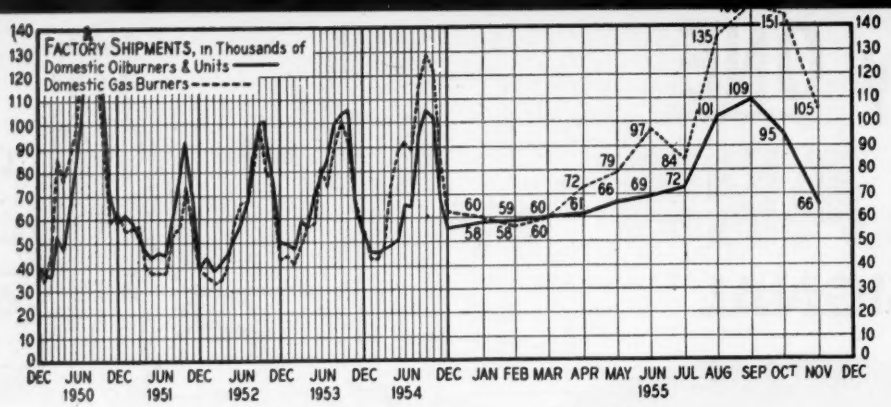
Scully Products are manufactured under U.S. and Foreign Patents or Patents Pending

MODEL LA
Threaded, for New Tanks

MODEL LC
Compression Fitting For Tanks Now in Use

VENTALARM® GAUGE
Combination Audible Signal and Visible Gauge

3-PIECE ASSEMBLY
for Heavy Oil Installations

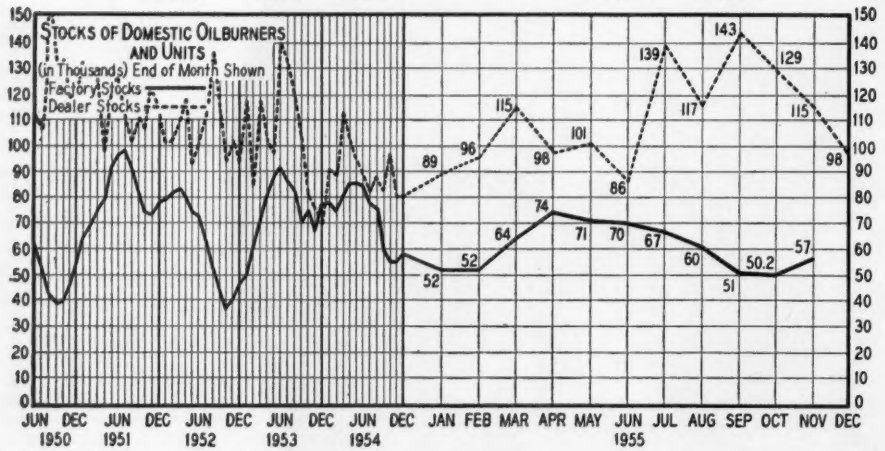

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Gas Burners
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	NOVEMBER			ELEVEN MONTHS		
	1955	*1954*	*Percent Change*	*1955*	*1954*	*Percent Change*
Separate Burners	45,216	43,820	+ 3.1	540,396	544,027	— .7
Boiler Units	5,329	5,711	— 6.7	77,669	66,410	+ 16.9
Furnace Units	15,966	18,098	— 11.8	196,912	176,713	+ 11.4
All Domestic	66,511	67,629	— 1.7	814,977	787,150	+ 3.5
Commercial	4,302	3,592	+ 19.7	37,917	39,133	— 3.1
Total	70,813	71,221	— .5	852,894	826,283	+ 3.2


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1950 1951 1952 1953 1954 1955

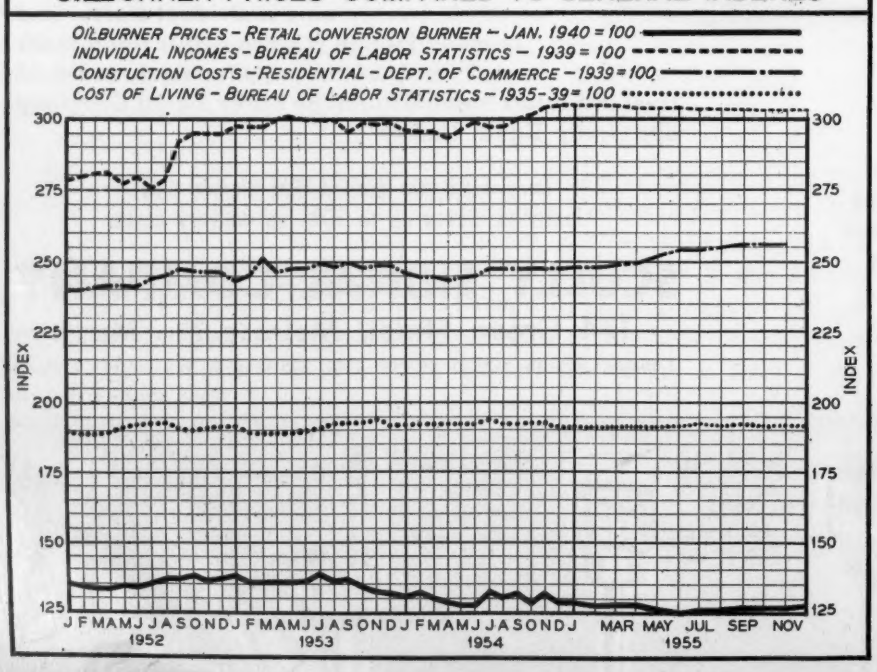
January Minimum Retail Prices: Key Dealers

	SEPARATE BURNERS	BOILER-BURNERS	FURNACE-BURNERS
January Aver.	$320	$713	$592
December Aver.	311	721	596

Price Index: Separate Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
January	141.3	Six months ago	136.2	January	127.1	Six months ago	125.6
December	143.8	Year ago	135.5	December	127.0	Year ago	128.2

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES – RETAIL CONVERSION BURNER – JAN. 1940 = 100
INDIVIDUAL INCOMES – BUREAU OF LABOR STATISTICS – 1939 = 100
CONSTUCTION COSTS – RESIDENTIAL – DEPT. OF COMMERCE – 1939 = 100
COST OF LIVING – BUREAU OF LABOR STATISTICS – 1935-39 = 100
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1952 1953 1954 1955

Oilheating Trends

THE JANUARY estimate for installations of domestic oilburners and units is 55,080. This compares with 53,586 in January last year showing a rise of 3%.

The January installations were divided: New homes, 25,094; Replacements of old oilburners, 14,529; Conversions from other fuels, 15,457. This month was quite unusual in a couple of ways. New home installations were up to 46% of the total, but the more surprising discovery is that replacements of old oilburners represented 26% of the total.

Conversions from other fuels are getting leaner with the years, although there are still a few million coal heated homes to work on.

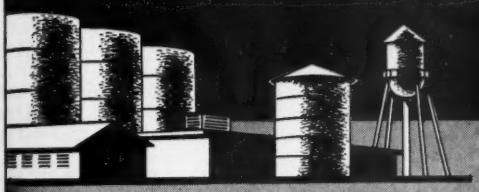
BURNER STOCKS: At the end of January burner stocks were fairly high, 97,613 to compare with 97,645 the previous month and 89,409 the previous year. The higher stocks at the present time reflect both a degree of optimism in the 1956 outlook and also the fact that more manufacturers are giving off season discounts.

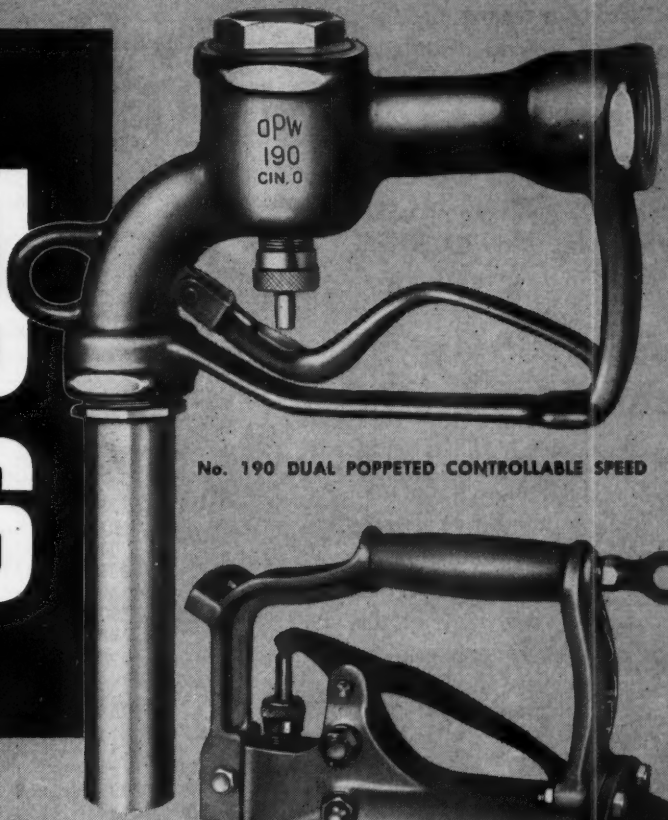
The February 1 stocks were divided: Separate burners, 52,440; boiler-burner units, 18,704; furnace burner units, 26,469.

Factory stocks at the end of November, the latest available data, were 57,167 compared with 54,901 on the same date of the previous year.

TANK STOCKS: At the end of January tank stocks in dealer hands were approximately 47,125 compared with 43,014 a month earlier and with 34,294 a year before. We use the customer oil tank as a typical accessory product that the dealer must have to

fueling nozzles





No. 190 DUAL POPPETED CONTROLLABLE SPEED

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No. 1190 HIGH CAPACITY
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make installations. In reporting these each month, it is our feeling that they reflect the dealers' general attitude toward accessory inventories. Obviously, their inventory attitude is more optimistic than a year ago.

The average price by dealers in January for a 275 gal. tank was $31. The same as it had been for several months back.

Special Study this Month

Oil tank failures: This subject seems to be of quite high interest because an unusually large number of dealers gave us their experiences on the subject. In one way, this is a progress report because we asked some of the same questions three years ago and the results were published in the February 1953 issue.

The odd thing about the present findings is that while we hear considerable complaint around the industry about tank failures, the figures themselves give little cause for concern. The ratio of failures to total tanks is the lowest that it has been in any of our studies going back many years. Before the war we used to find tank replacements running at the pretty consistent rate of seven to the thousand customers. Then a few years after the war at the height of trouble with tank failures this got up to 14 per thousand. In our study three years ago we found that 10 tanks per thousand were being replaced and that was based on the entire year of 1952.

Our newest figures are for the entire year of 1955 where we find that only 5.7 tanks were replaced out of each 1,000 users. One new consideration has entered the present study. Today a lot of tanks are patched when they leak. The actual number of tanks that leaked last year were 7.7 per thousand users so we see that two tanks per thousand were repaired and restored to service.

By sections these ratios were:

	Tanks Leaked	*Tanks Replaced*
New England	11.0 per M	7.8 per M
Mid-Atlantic	8.5 per M	6.3 per M
Midwest	5.0 per M	3.9 per M
Pacific N.W.	5.6 per M	3.7 per M
Weighted total	7.7 per M	5.7 per M

Oilburner* and Building Permits

January OILBURNERS *1956*	*January* OILBURNERS *1955*	12 MONTHS OILBURNERS *1955*	12 MONTHS OILBURNERS *1954*		*January* DWELLINGS *1956*	*January* DWELLINGS *1955*	12 MONTHS DWELLINGS *1955*	12 MONTHS DWELLINGS *1954*
4	1	96	167	Albany, N. Y.	..	..	..	..
73	37	742	892	Baltimore, Md.	165	269	3195	2783
..	..	..	..	Binghamton, N. Y.	2	7	164	182
..	..	..	..	Bloomfield, N. J.	3	13	281	103
..	..	..	..	Boston, Mass.	27	43	732	618
66	101	1504	1266	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	25	46	504	511
100	75	429	232	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	42	63	1909	4207
174	..	..	..	Detroit, Mich.	235	168	2929	3111
17	20	386	487	Elizabeth, N. J.	3	4	68	67
..	38	..	468	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	22	16	445	418
..	..	..	..	Hackensack, N. J.	4	7	62	86
37	136	653	1459	Hartford, Conn.	..	..	..	..
6	6	309	341	Irvington, N. J.	7	0	48	22
..	..	..	..	Lynn, Mass.	9	16	218	198
35	34	505	747	Meriden, Conn.	..	..	..	..
191	318	4990	6674	Milwaukee, Wisc.	224	127	..	3966
20	19	228	210	Minneapolis, Minn.	18	36	791	1149
15	9	192	226	Montclair, N. J.	..	..	..	..
2	1	71	97	Morristown, N. J.	2	0	37	45
12	14	330	341	Mt. Vernon, N. Y.	..	..	..	..
55	60	1367	1474	Newark, N. J.	..	..	..	..
148	81	1287	547	New Bedford, Mass.	..	..	..	..
20	12	390	497	New Haven, Conn.	..	..	..	..
..	10	370	350	New Rochelle, N. Y.	16	35	442	398
..	987	9544	11090	Brooklyn-Queens	..	..	..	..
75	23	995	615	Norfolk, Va.	31	35	644	456
..	14	..	171	Omaha, Neb.	..	67	..	1364
6	12	141	173	Orange, N. J.	0	0	12	13
4	4	130	162	Passaic, N. J.	..	..	..	..
17	28	479	413	Paterson, N. J.	11	9	189	282
..	296	4154	4715	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	5	8	122	151
41	48	792	727	Portland, Me.	1	2	239	152
192	266	4025	4411	Portland, Ore.	50	71	1129	1647
14	15	191	222	Poughkeepsie, N. Y.	..	..	..	..
65	64	1054	..	Providence, R. I.	5	..	230	..
..	..	..	..	Reading, Pa.	3	1	43	49
53	59	524	381	Richmond, Va.	16	24	329	439
119	99	1223	..	Roanoke, Va.	..	..	..	..
38	39	1443	1951	Rochester, N. Y.	..	..	..	..
13	9	159	140	Rockville Center, N. Y.	3	6	62	78
53	22	518	471	Salem, Mass.	2	5	98	69
..	141	2245	2117	St. Louis, Mo.	20	24	384	528
13	19	128	104	St. Paul, Minn.	30	37	1028	1129
2	3	101	196	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	116	182	1863	2518
..	167	..	2292	Spokane, Wash.	..	..	..	..
100	102	1654	1606	Springfield, Mass.	38	134	1441	1279
22	37	326	310	Stamford, Conn.	..	..	..	..
..	..	..	..	Trenton, N. J.	..	2	..	114
..	..	..	..	Utica, N. Y.	..	2	263	194
45	61	624	684	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	..	20	268	337
14	16	284	333	White Plains, N. Y.	27	3	191	169
21	29	526	529	Wilmington, Del.	0	3	83	49
92	95	1501	1512	Worcester, Mass.	..	..	..	..
13	25	610	767	Yonkers, N. Y.	..	..	..	..
1813	1919	35399	38546	*Totals*	1157	1394	20213	23437
—5.5	..	—8.2	..	*Percent Change*	—17.0	..	—13.8	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

Among those tanks that were repaired rather than replaced about one fourth were patched with cement on the inside. The other three fourths were repaired on the outside, mostly with a plug or steel strap or combination of the two. In two sections of the country, the New York City area and the state of Washington, we found quite a lot of dealers reporting that they had new bottoms welded onto the tanks.

The internal cement patch was entirely limited to New England except for five dealers in the Mid-Atlantic states and one in the middle west.

The introduction of chemical inhibitors to retard corrosion has been quite effective in the industry attempt to lick the problem. We find that 64%

Several No. 6 fuel oil problems solved with Du Pont FOA-2

3 case histories tell you how!

CASE HISTORY 1

How FOA-2 reduced "flame-out" in industrial burners

This plant found that by adding Du Pont Fuel Oil Additive No. 2 to No. 6 Fuel Oil it was possible to overcome miss-fires when burners were re-started after a weekend shutdown. Water separation caused the flame-out, investigators found. When FOA-2 was added, samples drained from tanks showed no evidence of water separation. This firm also found that FOA-2 in the Bunker C fuel eliminated the need for weekly cleaning of burners . . . another saving in time and money.

CASE HISTORY 2

FOA-2 overcomes 3 difficulties at once

A New Jersey chemicals plant made use of an additive-free Bunker C fuel. Tanks were last cleaned two years ago. Performance was satisfactory until the following three difficulties were encountered simultaneously:

1. Strainers prior to the pump frequently had to be freed of considerable solid material.
2. Pump suction vacuum increased from 3 to 8 inches.
3. Pump suction was lost on several occasions.

FOA-2 was added to the fuel at a concentration of 100 lbs./1000 barrels and circulated through the recycle system for several days. In two days, pump suction vacuum dropped from 8 to 5 inches, where it stayed. Examination of solids on the strainers showed no sludgebinding material. FOA-2 now is being added at 35 lbs./1000 barrels with the improvements maintained.

CASE HISTORY 3

One industrial manufacturer removed 1,250 gallons of sludge for $25 additives cost

Sludge in this plant's No. 6 Fuel Oil tank was beginning to cover the suction pipe. Tests showed the sludge contained 40% gum, 48% free carbon, 12% sodium and iron sulfate, some silica. Mechanical removal was considered objectionable because of the hazards connected with entry into a buried tank. Chemical methods, including dispersal by FOA-2, were tested. Tests indicated FOA-2 would do the job quickly, safely, economically. So 3,000 gallons of Bunker C containing 5 gallons of FOA-2 were pumped into the tank where it was recirculated. After 52 hours, it was estimated that 1,250 gallons of sludge had been solubilized or suspended. Filter screens were examined and found to be so clean that plans to truck out the treatment oil were cancelled. Total material cost to the plant was approximately $25.

To prevent future sludge buildup and to remove remaining traces of sludge, FOA-2 will be specified in the No. 6 Fuel Oil this company uses.

A sludge removal, sludge prevention plan with Du Pont FOA-2 can increase your industrial Bunker C Sales.

As you've seen in these three case histories, Du Pont Fuel Oil Additive No. 2 can do much for residual fuel oils. The cost is low. The savings are great and the insurance against shutdown is priceless to your industrial customers. Write us if you'd like more information.

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of the companies use a chemical introduced into the tank to prevent rusting. Among those companies that use it we find that 67% of their customers get this treatment for their tanks.

We then asked the group if they charged the customers for depositing this chemical in the tank. We find that just under one third make a charge and when they do the average billing is $1.62. The charges ranged from one dollar to three dollars.

We find that where these chemicals were added to customer tanks, the major oil companies supplying the fuel-oil distributor furnished the chemical in 44% of the cases, and did not furnish it for 56% of these dealers using chemicals.

Difference in Failures

There was a great difference between individual companies with their tank failure experiences. Glancing down the list we see one Massachusetts oilman that lost 100 tanks out of 2600, and another in the same state that lost 63 out of 2400. At the other end of the scale we have one Mid-Atlantic company with more than 30,000 fueloil accounts that lost only 98 tanks in 1955. This is a ratio of 3.1 losses per thousand tanks. Again we had companies with as many as 1500 accounts that had no tank failures last year.

The age of the tanks that failed brings out some very interesting disclosures. We find that 8% of the tanks that sprung leaks were under two years old; then 28% were three to five years old; another 28% was in the six to ten year bracket; and the remaining 36% were more than ten years old. The median age was approximately nine years. Notice that this does not indicate that nine years is the average life of a tank. Rather it is the average age of those that failed.

When we consider that less than 1% of tanks fail in any single year we can only conclude that the problem is rather moderate in its severity.

In looking over the geographic records we find curiously that tanks fail earlier in the Pacific Northwest than in any major section, if they are going to give out. In that region the tanks that fail have a median age of only six years. On the other hand we noticed earlier in the study that the per cent of actual tank replacements in that area is the lowest in the country.

When a tank has to be replaced it would seem a good time to persuade the customer to enlarge the capacity of his oil storage. Apparently it is not such a good idea because we find that in only 4% of the tank failure cases was the dealer able to get the old tank replaced with greater capacity. The psychology of that situation apparently indicates that the dealer should soft pedal on financial requirements at such a time.

We find that among all tank replacements 89% are of the basement variety and 11% are underground tanks. There is no good way to compare this to the ratio of tanks in use because where a customer has an oil storage capacity for 550 gal. we failed to learn whether this means an underground tank or two basement tanks.

The final question in this series asked whether the fueloil man believes that tank failures have increased since the fueloil was cleaned up with sludge inhibitors, thereby exposing the bottom of the tank to water particles. We find that 70% of the reporting companies believe that this is the case. However, when we notice that total replacements are running lower than in any of our previous studies we must conclude that either the combination of additives today is working out well or else that there has been some improvement in the quality of the tanks themselves.

Dealer Comments: Typical of the comments this month . . . "Most tank failures are 14 gauge installed more than 10 years ago." . . . "Is it possible that inferior steel plate is used when steel is in short supply?" . . . "A 14 gauge tank just won't last more than five years."

"In 18 years we have had only three leaking tanks." (This company has 900 fueloil customers.) . . . "Additives contribute considerably to the situation, by removing 'cushion.' " . . . "We have lost some tanks less than two years old." . . . "We clean tanks by electricity." . . . "We've had most of our trouble with the tanks installed during the war." . . . "Tank steel should be coated with some metal resistant to corrosion before the tank is built."

"Many 1,000 gal. underground tanks that we installed over 30 years ago are still in use, have never had sludge removed, and have never had additives." . . . "We should have glass lined tanks."

"We find the best results by installing a new 10 gauge bottom 24" by 63", over the existing bottom. We've been repairing leakers this way for 17 years, and we have never had a leaker where there is a double bottom. We use a chemical RT-40, and our percentage of leakers has dropped from 7% in 1952 to less than one half of one per cent in 1955."

Losses have Cycles

"We lost two tanks last year—one was porous steel, and one had a bad weld." . . . "Tank losses seem to run in cycles." . . . "With 1300 fueloil accounts we replaced only one tank last year; our low experience rate due to our only being in the oil business for eight years and most of our accounts are our own installations."

"It looks like the trouble is fairly well licked now." . . . "This year tank failures are not a problem—quite a change from the past heating season." . . . "Poor welding around all tappings, mostly gets into threads." . . . "Fourteen gauge tanks should be outlawed." . . . "We've had more trouble with new tanks than old ones."

"We think most of the tanks which failed around three years old was due to bad steel from one tank manufacturer." . . . "Why not have 275 gal. tank outlet at end, plus a drain opening in bottom so that a valve could be installed and then plugged to prevent unauthorized opening." . . . "We have no trouble with 10 gauge tanks."

"Installers should use at least 12 gauge tanks." . . . "Tank information seems to be something to be ashamed of; major companies won't admit any failures." . . . "We always have tanks repaired, ordinarily put in new bottoms." . . . "We find failures are caused by chemicals in oil attacking inside surface." . . . "Failures are caused by chemical reaction between additives, oil and water."

(*Please turn to page 18*)

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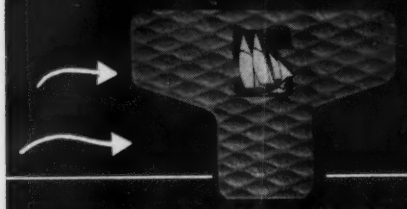

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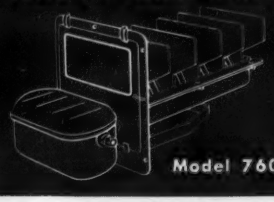
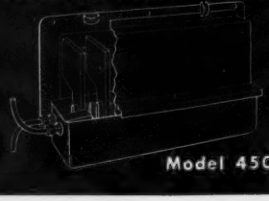


Model 760



Model 450

"Most leaks appear in the welded seams." . . . "Bottom outlet, I believe, is the thing." . . . "Think failure is due to poor steel when tanks were scarce in 1948 to 1951." . . . "Tanks should be elevated off the floor high enough for a water leg and drain cock in the bottom which could be drained by the driver periodically." . . . "Considerably less tank failure since we started using crystals in the tank to neutralize the effect of the water." . . . "We do not use any additive in the oil nor put anything into the tanks; result no trouble." . . . "A very serious problem, hard to cope with, a good sales point for the gas people." . . . "Additives have helped, the epidemic is over."

"It's the water not the oil that rusts out the tank bottom." . . . "Our tank saver does not clean off the sludge, but is supposed to have an affinity for water and form a coating on the bottom of the tank. Does a sodium nitrate and borax combination clean out the sludge, or what is its function? The bad relations with customers can in a great majority of cases be blamed on tank failures. With all the brains in the steel and oil business isn't there a better answer to this situation?"

"We have not had serious trouble with new tanks—only about three in three years. (1200 oil customers.) We use an additive mixed with oil to homogenize the oil. Our additive does not clean out sludge, merely keeps oil from separating." . . . "The bottom of tanks should be made of thicker gauge with provision of draining water off bottom."

❖

O. A. "Bud" Reiter has been named advertising and sales promotion manager, Cleveland Fuel Equipment Co., Cleveland, O. He has headed his own advertising agency, Reiter and Associates, and will now direct the advertising and promotion program for the producer of combustion controls and instruments.

W. Eugene Sinner has been made project engineer, Delavan Manufacturing Co., West Des Moines, Ia. He had been associated with the Bjorksten Research Laboratories, Madison, Wis.

Expand Your 3 Biggest Markets!

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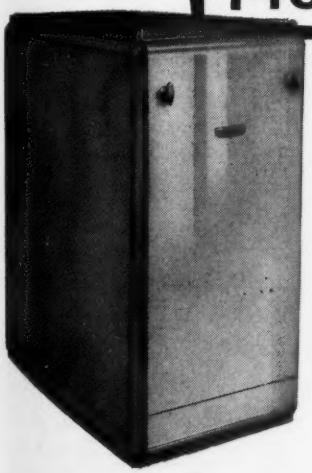
... REMODELING

... REPLACEMENT

GM DELCO-HEAT

Product of General Motors



A complete line of automatic heating equipment in a wide variety of capacities—for both fuels—for every type of system.

More Profit plus More Volume...

Now progressive heating dealers have a new opportunity to earn more by selling more with GM Delco-Heat—America's fastest growing volume heating line! All three of your biggest heating markets are expanded for you through Delco's product engineering and marketing programs developed especially for today's home owner's needs.

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Don't wait! Send in the coupon today for all the facts on the Delco-Heat PROFIT PLUS VOLUME program!

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with a complete new line of residential air conditioning.

LET US HELP YOU SELL MORE HEATING EASIER . . . AT MORE PROFIT!

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I am interested in building higher profit and volume as a dealer selling the General Motors Delco-Heat Line.

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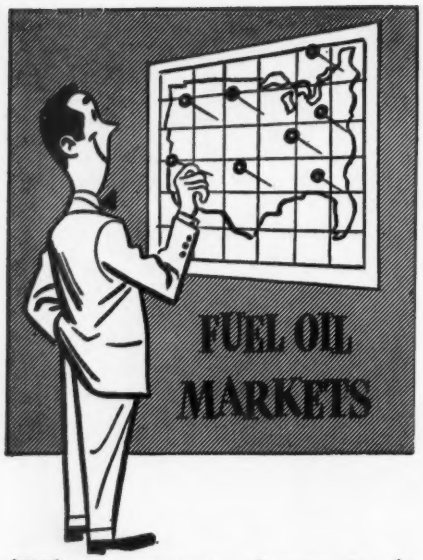


THE PRINCIPAL changes in the price table this month were in the New York to Philadelphia area where the increase was quite considerable. First there was a half cent rise because of tanker rates, and then in early February a .2¢ rise in metropolitan New York only because of the strong increase in the wage rates of truck drivers.

The drivers called a strike at the heaviest part of the season and were out for several days in the five boroughs of New York City. The settlement finally made represented nearly a .2¢ in operating costs for fueloil distributors. They raised their prices two-tenths following the settlement.

Primary stocks of distillate fuels east of the Rockies on February 8 were 12% above the corresponding date last year. A healthy position in view of the increased demand this season.

Secondary stocks at the end of November, the latest available information, showed a rise of 9% above 1954.

The degree-day table shows that January was again colder than normal in many parts of the country. Although some key spots like Boston, Hartford, Milwaukee, Portland, Me., and Providence were warmer than normal.

However, for the full season to date every important fueloil market was colder than normal with the single exception of Chicago.

Fueloil distributors generally are speaking of this as an excellent season because their volume has been swelled not only by new installations but also by cold weather and margins are good.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of February 10, 1956

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	10.8	14.5	Richmond	11.0	14.2
Boston	10.7	14.5	Charleston, S. C.	10.7	13.9
Providence	10.7	14.5	Chicago	11.2*	14.6
Springfield, Mass.	10.95	14.5	Detroit	11.95*	15.2
Hartford	10.95	14.5	Cleveland	11.6*	14.6
New Haven	10.6	14.2	Minneapolis	11.25	14.3
Syracuse	11.6	14.8	St. Louis	10.9*	14.4
Albany	10.8	14.2	Indianapolis	11.6*	15.1
New York	10.6	14.5	Milwaukee	12.0*	15.5
Newark	10.2	14.1	Des Moines	..	14.3
Philadelphia	11.1	14.0	San Francisco	10.45*	13.0
Harrisburg	..	14.6	Portland, Ore.	11.05*	13.6
Baltimore	10.6	14.15	Seattle	11.05*	13.7
Wilmington, N. C.	10.7	14.0	Spokane	13.45*	16.1
Washington	..	14.65	Los Angeles	9.95*	12.5

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.

DEGREE DAY TABLES

— ONE MONTH ONLY — January					——SEASON TO DATE—— Sept. through Jan.			
Normal	1955	1956	Percent Change*		Normal	1955	1956	Percent Change*
1318	1351	1279	— 3.0	Albany AP	3877	3757	4038	+ 4.2
632	654†	724	+14.5	Atlanta AP	1757	1911†	1959	+11.5
955	1005†	995	+ 4.2	Baltimore AP	2773	2854†	2938	+ 6.0
1113	1127	1057	— 5.0	Boston AP	3121	3035	3315	+ 6.2
1225	1240	1243	+ 1.5	Buffalo AP	3649	3294	3734	+ 2.3
1243	1248	1138	— 8.5	Chicago AP	3595	3294	3552	— 1.2
942	1039	1077	+14.3	Cincinnati CO	2653	2896	3046	+14.5
1132	1173	1151	+ 1.7	Cleveland AP	3303	3223	3435	+ 4.0
607	566	615	+ 1.3	Dallas AP	1477	1368	1566	+ 6.0
1125	1163	955	—15.1	Denver AP	3473	3179	3185	— 8.3
1330	1337	1392	— 4.7	Des Moines AP	3785	3549	4160	+ 9.9
1203	1196	1190	— 1.1	Detroit AP	3528	3410	3550	+ 0.6
1215	1207†	1255	+ 3.3	Grand Rapids AP	3577	3424†	3845	+ 7.5
1178	1202	1113	— 5.5	Hartford AP	3444	3352	3606	+ 4.7
1495	1378	1495	0	Helena AP	4716	4417	5139	+ 9.0
394	347	342	—13.2	Houston AP	903	794	849	— 6.0
1123	1155†	1164	+ 3.7	Indianapolis AP	3263	3220	3454	+ 5.6
1085	1002	1143	+ 5.3	Kansas City AP	2960	2598	3103	+ 4.8
328	345	271	—17.4	Los Angeles CO	779	669	758	— 2.7
933	966	999	+ 7.1	Louisville AP	2666	2680	2805	+ 5.2
1336	1335†	1234	— 7.6	Milwaukee AP	3947	3695†	3958	+ 0.3
1562	1571	1615	+ 3.4	Minneapolis AP	4552	4335	4978	+ 9.4
341	330	391	+14.7	New Orleans CO	770	813	898	+16.6
995	1064	995	0	New York CO	2766	2788	2903	+ 4.5
1302	1242	1422	+ 9.2	Omaha AP	3670	3237	4105	+11.9
933	972	954	+ 2.3	Philadelphia CO	2557	2599	2687	+ 5.1
992	1051	1050	+ 5.8	Pittsburgh CO	2882	2941	3061	+ 6.2
1373	1315	1161	—15.5	Portland, Me. AP	4149	3939	4217	+ 1.6
791	731	693	—12.4	Portland, Ore. CO	2391	2202	2466	+ 3.1
1125	1139	1066	— 5.3	Providence AP	3320	3175	3438	+ 3.6
840	915	910	+ 8.3	Roanoke, Va. AP	2472	2713	2726	+10.3
983	954	1060	+ 7.8	St. Louis CO	2686	2594	2873	+ 7.0
1194	1353†	908	—24.0	Salt Lake City AP	3473	3536†	3135	— 9.8
462	514	405	—12.3	San Francisco CO	1343	1453	1397	+ 4.0
1587	1489	1498	— 5.6	Sault Ste. Marie AP	4927	4642	4776	— 3.1
753	693	714	— 5.2	Seattle CO	2435	2220	2689	+10.4
1197	1213	1266	+ 5.8	Toledo AP	3561	3434	3737	+ 4.9
893	910	937	+ 4.9	Washington AP	2523	2571	2680	+ 6.2

*Compared with normal. †City Office.

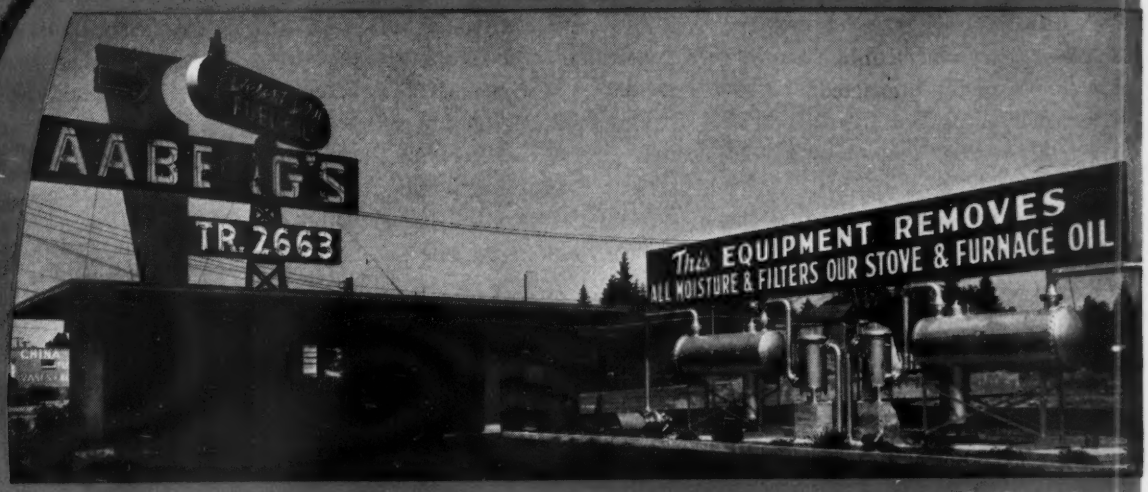
Distillate Fueloils

PRIMARY STOCKS* (Thousands of Barrels) East of Rockies	Feb. 8 1956	Feb. 11 1955
East Coast	30,658	27,984
Midwest	23,810	22,172
Gulf Coast	16,710	13,416
Total	71,176	63,572

SECONDARY STOCKS** (Thousands of Barrels)	Nov. 30 1955	Nov. 30 1954
East Coast	12,744	10,908
Midwest	5,936	5,947
Gulf Coast	889	708
Mountain	522	513
Pacific	900	1,110
Total	20,991	19,186

*American Petroleum Institute. **Bureau of the Census.

Here's how a fuel oil dealer increases customer confidence



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solids filtration down to 5 microns
assured quality product

RESULT . . . . INCREASED BUSINESS

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WRITE FOR DETAILS

DIVISION OF FRAM CORPORATION

Government Influences on Fuels

by
Milburn Petty

WASHINGTON — Never before has the oil industry received such a severe blow to its public prestige than that delivered by President Eisenhower in his harshly-worded veto of the Harris Gas Bill.

The veto message implied that the entire industry had been guilty of "highly questionable activities."

Methods were used, the President said, "that I deem to be so arrogant and so much in defiance of acceptable standards as to risk creating doubt among the American people concerning the integrity of governmental processes."

This legislation was to free gas producers from direct federal control and put a ceiling on what pipelines could pay producers for gas.

It passed the Senate, 53 to 38, after disclosure that a "lobbyist" for an oil company had offered a $2500 campaign contribution to Senator Case (R., South Dakota) who refused it and voted against the bill.

"The President," said Rep. Oren Harris (D., Arkansas), author of the bill, "has made a direct attack on the Congress and put a stain on one of the greatest industries in our country because the representative of one company made a stupid mistake."

What sparked the fireworks leading to the veto was the "offer" to Senator Case of funds supplied by Elmer Patman, Austin, Tex., staff attorney for Superior Oil Co., from "personal funds" of Howard Keck, Los Angeles, president of Superior Oil. Investigations followed.

Ike "Invites" New Bill on Gas

In his veto message, the President said legislation conforming to the "basic objectives" of the Harris Bill was needed "because the type of regulation of producers of natural gas which is required under present law will discourage individual initiative and incentive to explore for and develop new sources of supply."

Any new legislation should also include "specific language protecting consumers in their right to fair prices," the President said.

If the White House does not take the initiative, it is unlikely that any legislation will be enacted this year.

Assuming legislation is enacted, it will bear little resemblance to the Harris Bill. Producers might be freed from direct federal control but it would be tighter all along the line.

FPC Action on Gas Price Awaited

It's no secret that the FPC majority were disappointed that the Harris Bill did not become law. For one thing, there is an enormous amount of paper work involved in regulating the prices of some 8,000 independent gas producers.

But first the Federal Power Commission must agree on some approach to control field prices for gas, as directed by the Supreme Court in the Phillips Case.

The FPC's staff, in recent months, has pressed for inclusion of "costs" in hearings to determine producer prices.

This would be utility-type control, such as "cost-plus-6%" or the like, which producers say would provide insufficient incentive to search for new oil reserves—a fear that was also expressed in Ike's veto message.

Ultimate Gas Price Rise Seen

Sideline observers believe that prices for gas must rise above the current average of less than 10¢ per thousand.

In fact, when all hope for new legislation is abandoned and the FPC tackles the log-jam of pending applications for rate increases, there will be many granted.

So, even without a new law, prices will be trending higher.

Meanwhile, the effect—both short and long range—on gas supplies will be watched.

Companies with developed reserves may be inclined to hold them off the market to see what policies the FPC will follow.

Other companies may be inclined to spend all their "development money" drilling in proven oil areas, deferring their gas work.

Gas distributing companies, counting on expanded volume to hold down their prices, may be disappointed as their pipeline suppliers encounter difficulties in lining up new supplies for projected expansion.

On the other hand, the gas bill debate spotlighted the "high" cost of distribution as compared with the producer's share (10% or less) of the consumer's dollar.

Gas companies may find that their attacks on the producers have boomeranged.

Utility Threat For Oil Seen

During the bitter gas bill fight, there was a tendency among some senators —and congressmen—to view the petroleum industry as "a public utility."

This suggestion—which constitutes a threat to the entire industry, including marketers—was voiced by Senator Barkley of Kentucky, an oil state, and others.

He said "gas and oil companies are public utilities and are monopolies, because gas and oil are a part of the resources of our country, with which God Almighty has blessed all the people, whether they live in the State where gas and oil is produced or not."

Ike's Attack Spurs Oil Critics

Undoubtedly, the President's broad-gauged criticism in his gas bill veto will encourage critics of the petroleum industry to redouble their attacks, coming as it did from one whom they have accused of being overly-friendly to Oil.

The virulence of the veto message has "smeared" all of the 53 senators and 209 congressmen that voted for the gas bill.

It will be a brave legislator—democrat or republican—who stands up to defend the oil industry, particularly if he comes from a consuming state.

Undoubtedly, President Eisenhower will be urged by those in the oil industry, who are still his friends, to soften the blow at the entire industry that was contained in his veto message. But the "palace guard" will seek to hold the political advantage gained.

Unless the damage is somehow repaired, it is this writer's considered opinion that Oil's continued existence as a free enterprise is threatened.

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The satin-gold case and black dial with its easy-to-read numerals complements the color scheme of any room.

But enough about its beauty . . . that's obvious . . . what you want to know is how much does it cost and how easily it can be installed.

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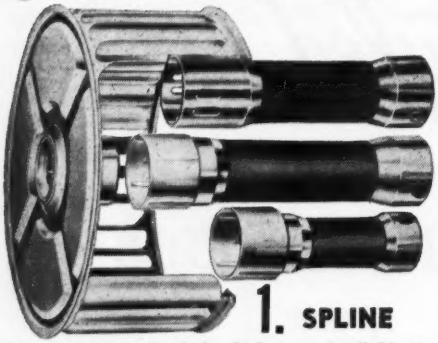

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Quality standard of the industry—Available in Silent Tension Aluminum or DuPont Nylon.

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Ultimate to correct misalignment—Furnished in 1/6 to ¾ HP ratings for Oil Burner requirements.

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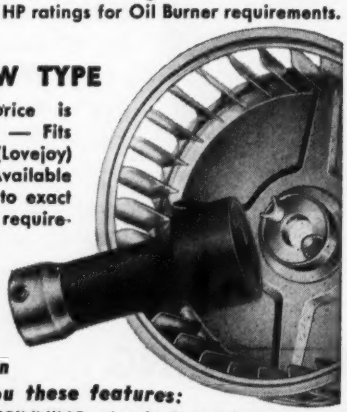
Where price is important — Fits all Jaw (Lovejoy) Hubs. Available in Nylon to exact length requirements.



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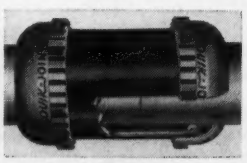
Just slip Quick Joint fittings over ends of pipe and tighten end nuts, THAT'S ALL. No threads to cut. Make a joint or disassemble for cleaning, inspection, etc., in *LESS THAN A MINUTE!* Repairs leaks. Just cut pipe at leak and put on a Quick Joint fitting. For working pressures up to 2000 P.S.I. Find out how Quick Joint can save you money — Write for FREE CATALOG.



Guardian
PRODUCTS CORP.
COUPLING DIVISION

Dept. F-36, 1231 E. Second Street
Michigan City, Indiana

Reaction to Algeri Story is Sound and some Fury

THE FEATURE "Hot water Heat is competitive" in the December 1955 issue told how Anthony Algeri, Bonney Oil Co., Waltham, Mass., sells forced circulation hot water heating for $640 to builders of $13,700 homes.

Understandably, publication of the article evoked some comment from readers, a few of them skeptical and others expressing downright disbelief that Algeri either could buy materials at the prices he listed or that he was able to install the heating systems at a profit.

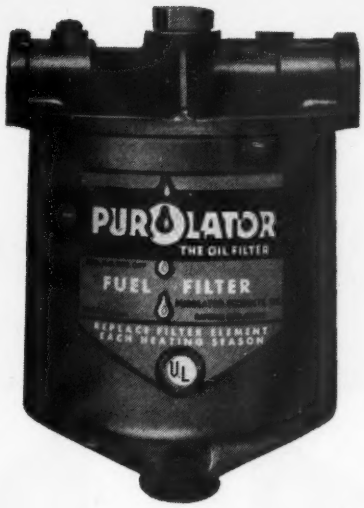
In retrospect, it appears it would have been helpful to have included an introduction. It would have explained that the article was presented not because it told how an oilheating dealer was able to sell to builders at an almost unbelievable low price, but rather because it demonstrated that careful buying of quality parts, close control of installation time, plus an accurate knowledge of materials needed for each job, enable Algeri to keep his price competitive and profitable.

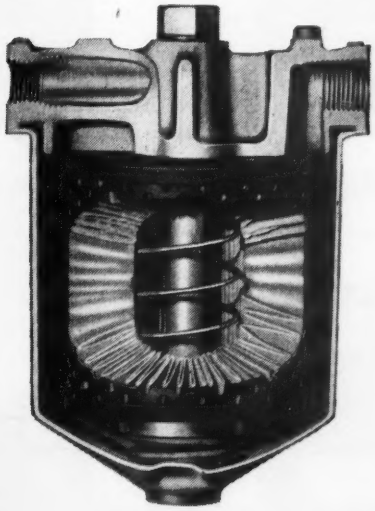
New Home Oilheating Feature

It probably should have been pointed out also that the Algeri article was prepared during September and reported prices in effect at that time. Since then there has been an increase in the price of the boiler, a slight rise in the price of the oilburner and an even smaller rise in the price of the copper convectors. All in all, as will be explained later, the increase adds less than 5% to the $640 price.

Above all, it should have been pointed out that the "List of Materials" published with the December issue article represented verified prices at which the equipment was available. As a matter of fact, Algeri actually paid less for a few of the items; the

Here's a two-man crew *which Algeri uses to install oilfired, forced circulation hot water heating systems in one day. Roughing-in is done in half a day; the rest of the installation is completed during the balance of the day. Main principle used by Algeri is that both men keep busy all the time. Where necessary they work together, but at other times separately, so that the job is always moving.*





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3 **NO CHANNELING** Uniform density eliminates "soft spots" for oil to break through and minimize filtration.

4 **NO DISTORTION** PurOlator's Micronic Element will not shrink, distort, stretch, flake or deteriorate when oil passes through. It will not wear.

5 **FITS MOST HOUSINGS** The necessary gaskets for installation in other housings are included in the PurOlator package, for the cost of the element.

6 **ONE SIZE FITS ALL JOBS** PurOlator offers a standard one-sized unit which is physically among the smallest elements available, yet has a capacity three times the largest element sold for domestic burners. This reduces stock and inventory problems.

Only PurOlator filters offer all 6 advantages

The PurOlator PF-2002 prevents nozzle clogging and cuts down fuel pump wear. No other oilburner filter offers all of the six advantages explained above to assure this efficiency of operation. That's why the PurOlator PF-2002 Oil Burner Fuel Line Filter has become the most widely used by original equipment manufacturers in the combustion industry. There's no advantage in settling for less. It fits most popular housings, and, with adapters, this one element is widely interchangeable — cutting down your stock and inventory problems.

Write for all the information you need, including prices, to: PurOlator Products, Inc., Rahway, New Jersey, Dept. OB4-312.

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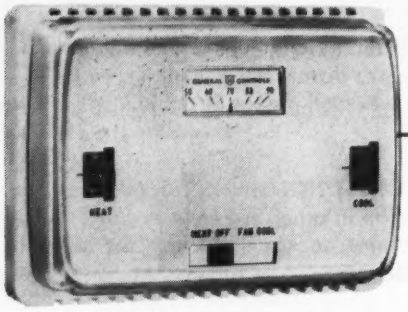
...to profit by the prewired simplicity of Ge



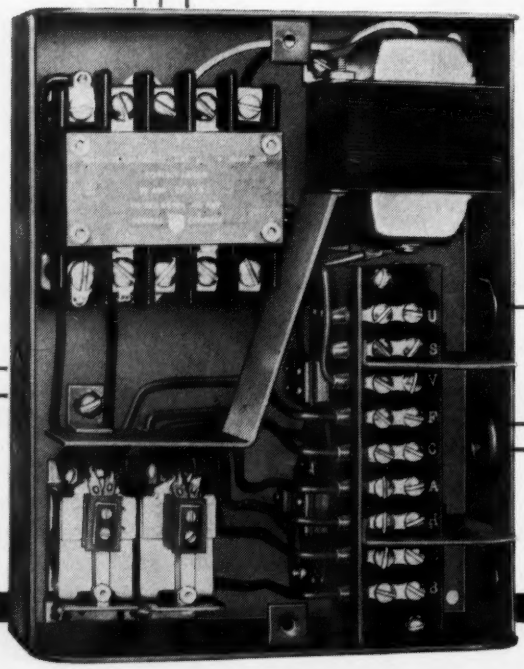
T-231 Combination Heating-Cooling Thermostat – provides single-point control for combination heating and cooling systems. Dual mercury switch type . . . available with single or two-stage operation. One of General Controls' complete line of **slim silhouette** thermostats – matchless design for matchless performance.

1 You connect to thermostat

2 You connect to cooling unit

3 You connect to heating unit

Outside Power brought in by electrician



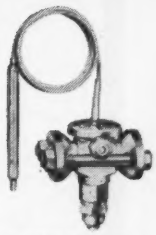
General Controls' Compact Master Control Panel

—provides a complete, prewired combination of all vital heating-cooling controls—motor relays, transformer, and pressure switches—simple to install as 1-2-3. Everything prewired to easily accessible terminal strips . . . one connection to either gas-or oil-fired heating units, interchangeably. High voltage terminals isolated, relay ratings up to 5 hp single-phase, or 10 hp three-phase.

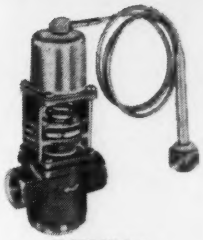
Simple Connections

General Controls' Heating-Cooling Master Control Panel

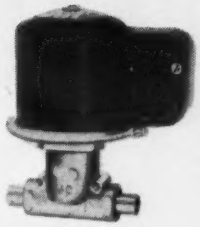
A Complete Line of Controls for Cooling



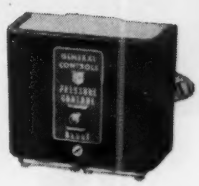
V-203H Thermal Expansion Valve



V-420 Water Regulating Valve

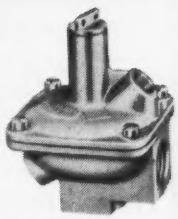


K-25 Magnetic Stop Valve

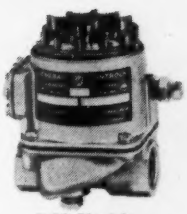


L-49 Dual Pressure Switch

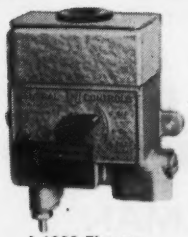
A Complete Line of Controls for Gas-Fired Heating



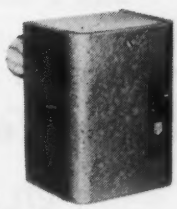
V-300 Low Pressure Gas Regulator



B-50 Electric Diaphragm Valve



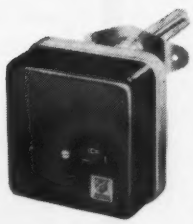
A-100G Thermo-pilot Relay



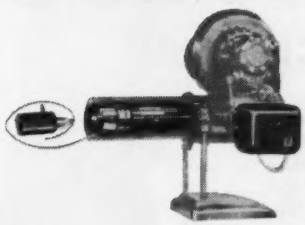
L-44 Fan and Limit Control

G-250 Pilot Generator

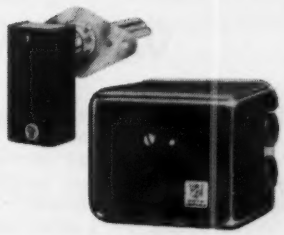
A Complete Line of Controls for Oil-Fired Heating



5520 Stack-Mounted Primary



5540D-2 PerfXray



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VACUUM CLEANER

The secret's in the new miracle Never-Clog filter bag, a *secondary* protective filter that keeps up full suction. Never clogs, even during the toughest jobs. Cleaning is almost automatic with this new miracle bag . . . completely wear-and-tear resistant. All parts are fully guaranteed for maximum full-time performance and *no* breakdowns.

You make MORE CALLS . . . MORE SALES . . . MORE PROFITS per day.

Your customers will be "sold on you" too, when you service them fast and efficiently with a Never-Clog Vac . . . and a "sold on you" customer is a perfect prospect for MORE *fuel oil sales*, MORE *worthwhile repair jobs* and *new installations*.

Pullman

THE WORLD'S LEADING SPECIALISTS
IN FURNACE VACUUM CLEANERS

PULLMAN
VACUUM CLEANER
CORP.
25 BUICK ST.
BOSTON 15, MASS.

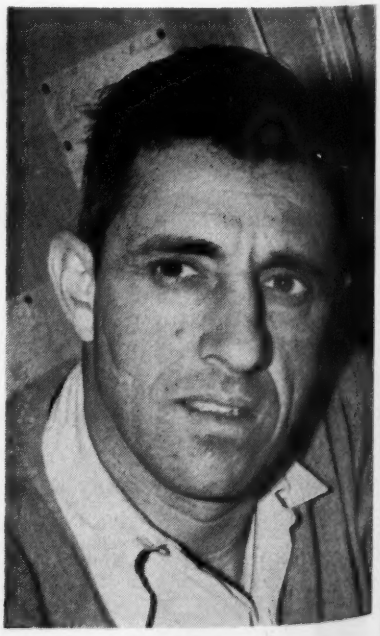
published prices represent more of an average than a minimum.

As might be expected, the greatest skepticism was expressed about these prices; some readers felt they were much too low. Algeri clarifies this by explaining that over a period of time he has established his company as a "2% cash discount account." "Such discounting," he says, "is standard practice for us. On individual bills it doesn't mean very much, but during a year when many thousands of dollars worth of equipment are bought, the 2% cash discount amounts to enough to pay off some sizable expense items." Then, too, with such a reputation, Algeri has no trouble with credit ratings and seldom has any difficulty getting fast service from his suppliers.

In addition, Algeri takes advantage of bargains when they are available, makes quantity purchases whenever possible to gain the extra discounts almost always offered. Further, he's quick to point out, "I have no relatives in the supply business, and get all my equipment from standard sources."

In the following paragraphs we have summarized some of the typical comments received on the December article and follow them with Algeri's replies. From a manufacturer:

"It seems to me that the prices quoted in the article must be quite old and that nobody could buy the materials for any comparable sum now.



A. J. Algeri

Chrysler Airtemp

Back of Airtemp is Chrysler— the greatest name in engineering!

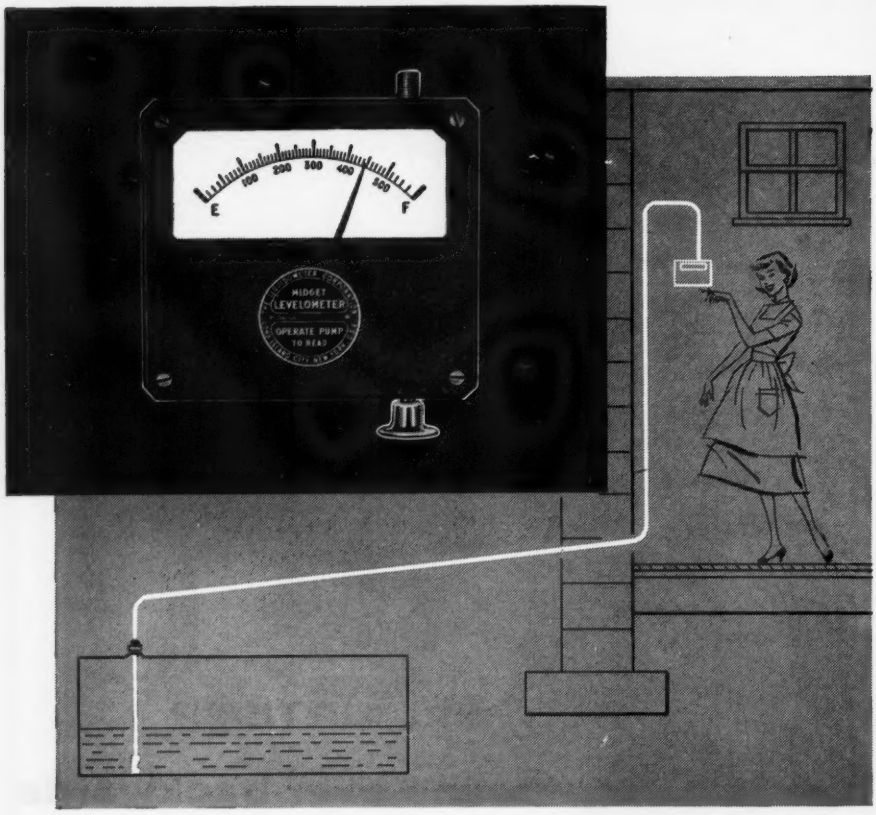
...and AIRTEMP leans over backwards to help you make more profit in Heating and Cooling!

From your Airtemp Distributor *and* Airtemp, you can expect and get assistance. Every step of the way to success as an Airtemp Dealer there is help available in financing, merchandising, application, installation and service.

Airtemp is *the* profitable franchise in Heating and Cooling. Get all the facts and you'll see that your profit opportunity is with Airtemp. Write Department FOH-3, Airtemp Division, Chrysler Corporation, Dayton 1, Ohio.

Airtemp DIVISION CHRYSLER CORP

THE *FORWARD* LOOK IN HEATING · AIR CONDITIONING FOR HOMES, BUSINESS, INDUSTRY



LOW-PRICED...QUALITY MIDGET LEVELOMETERS

GIVE DEPENDABLE INDICATION OF TANK CONTENTS

Midget Levelometers provide home owners and plant engineers with reliable, easy-to-read, trouble-free indication of fuel supply. The dangers and inconvenience of old-fashioned dip sticking and taping methods are eliminated. In the plant, fire and labor hazards are cut . . . costly shut-downs caused by lack of fuel are avoided.

Levelometers operate on an adaptation of the hydrostatic principle. They establish a balance between the height of the liquid to be measured and an indicator. Dial type indication provides maximum readability. Levelometers are precision built, rugged, easy to install and constructed of the finest materials. Approved by UL, FM and BSA, New York, they are used for gaging fuel oil, diesel oil, gasoline and a variety of other liquids.

Levelometers are available in several sizes for a wide variety of applications. For complete information write Dept. C.

LIQUIDOMETER INSTRUMENTS

THE LIQUIDOMETER CORP.

SKILLMAN AVENUE AT 36TH STREET, LONG ISLAND CITY 1, N.Y.

. . . . Algeri

Radiation shown at 41¢ a foot, for example, averages closer to $1 trade price right now. Also, I get the impression that too much emphasis is placed on cheap buying and most of the materials cost more today. Offhand, I'd say the total cost of the job itemized in the article would amount to at least $100 more."

Algeri replies to this by first pointing out that the $1 price quoted in the paragraph above undoubtedly refers to cast-iron radiation, whereas he uses less expensive copper convection. Also, he expressed the opinion that even for cast-iron radiation the $1 price "is quite high." He concedes that there has been some increase in his price of radiation within the past three or four months; there has been a 7½% jump in boiler prices and the oilburners he's buying today cost him $2.50 more than when the article was prepared.

New Price

"Our new price today (January 20) for the job described in the article," he says, "is $30 more than was shown in the 'List of Materials.' The prices shown in the article were based on costs during September and before the last increase in boiler prices."

When confronted with the next comment, wherein an oilheating equipment and fueloil dealer stated, "It simply does not seem possible that anyone could make a heating installation of the type described at the prices quoted for materials and labor," Algeri replies:

"There was nothing for me to gain by giving incorrect information. The job was done for the price shown and is being done today for the same price, plus the $30 increase, and at a profit."

The third observation on the article remarked "It's fortunate that Algeri has a million and a half gallon fueloil business to carry all of the operating burden of his combined business. Regrettably, though, the article was not presented as a means of securing new fueloil accounts by subsidizing a profitless heating business, but rather it was presented as the way to figure heating jobs."

To this Algeri says, "None of our heating jobs is ever taken at a loss. Each is calculated by I-B-R methods so

Mack B-61T's... three of the many Mack tractors that Rollo Trucking Corp. uses in combination with semi-trailer tankers for bulk fuel oil hauling.

Macks save Rollo Trucking 50% on fuel costs alone

6.6 mpg . . . that's what Rollo Trucking Corp. of Keyport, N. J., gets with its B-61T Mack diesels. Compared with the 3.3 mpg they get with other make tractors purchased at the same time and used in identical service, the Macks return a fuel cost saving of 50%.

In cold cash this economy adds up to $1,700 saved per unit per year . . . each B-61T in the Rollo fleet pays for itself in little more than six years' time!

This saving becomes really significant when you consider that the Rollo Macks haul full 60,000 lb. gross loads of petroleum products over the congested roads and streets of the industrial Northeast —and spend on an average 1½ hours a day pumping at the end of the run!

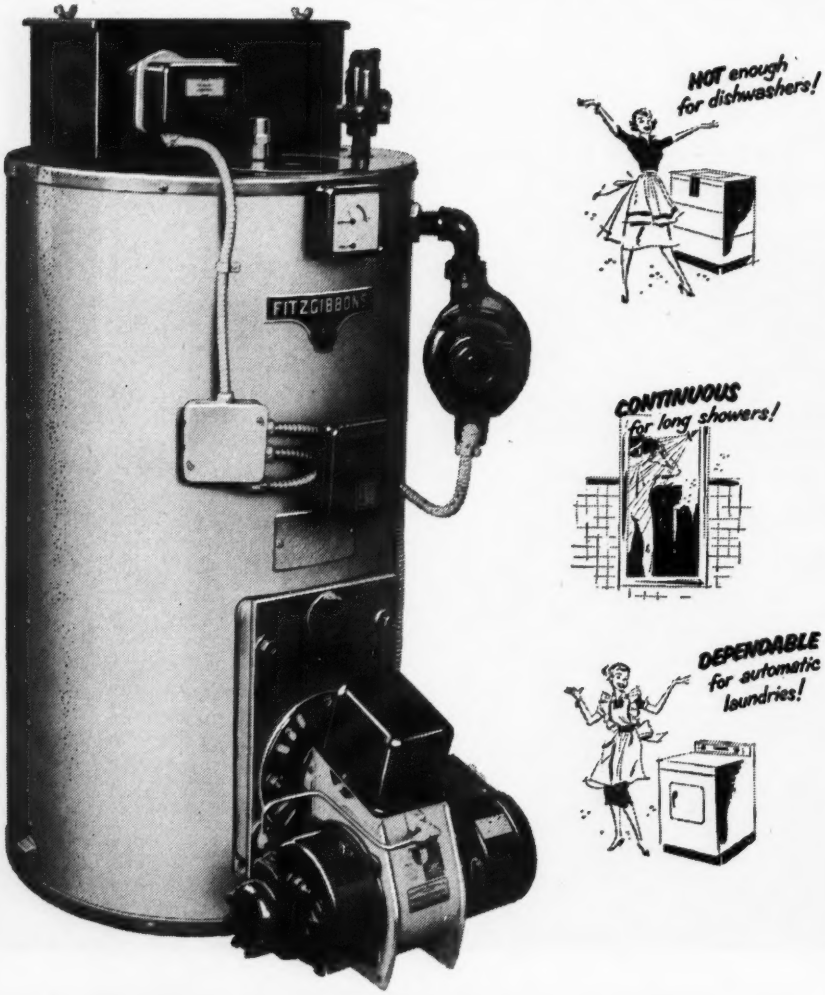
An extra bonus, these Mack diesels save still more money through less downtime and fewer repairs.

Such economy of operation is typical of all Mack trucks. No matter how demanding your hauling job, wherever you operate, you can't afford *not* to own Macks.

MACK TRUCKS Empire State Building, New York 1, N. Y.

3096

Dependable, economical heat, of course, and hot water for 5 baths an hour!



Fitzgibbons 770 Series
BOILER-BURNER UNIT

. . . completely pre-assembled and wired

If residential hot water supply complaints and resulting call-backs are draining your profits, it's time to switch to the Fitzgibbons 770 Unit. It keeps the hot water coming through bath-after-bath and load-after-load in dishwashers and washing machines. *In fact, it's just about impossible to run the 770 out of hot water!* Check this with any contractor who has installed one. When you do, ask him about the savings in set-up time with this completely pre-assembled and wired unit. Ask your jobber for Catalog 770-10 or write the Fitzgibbons Boiler Company, Inc., 101 Park Avenue, New York 17, N. Y.

SINCE 1886 MOST ECONOMICAL IN FUEL 1886 THE FITZGIBBONS BOILER

THE FITZGIBBONS BOILER®

that we can make up individual cost sheets and price the job carefully with a definite profit figured each time. We are fortunate that we later secure as fueloil customers most of the purchasers of the new homes in which we install oilheating. As a matter of fact, we manage to add about 95% of them to our customer list, but, believe me, there's absolutely no guarantee that we will get this many, nor do we get them automatically."

Extending Guarantee

The second portion of this third complaint decries the fact that "the dealer sends letters to new homeowners and explains that his firm installed the equipment and will extend the manufacturers' one-year guarantee to two years, plus two years' free service and summer cleaning on boiler and burner."

Algeri replies to this by pointing out that it's not unusual for a fueloil dealer to give a new homeowner the first tankfull of oil free—this amounts to some $30 or $35 retail value; others make it a practice to present premiums, such as silverware sets or similar gifts. Algeri reasons that for less money than either of these two methods he can extend the manufacturer's guarantee for a year, provide service without charge during this two-year period and vacuum the boiler and burner. What's more, besides costing him less, he feels that with these more tangible concessions he's offering the homeowner something that he appreciates more, especially since it relieves him of the worry and expense of service problems in the immediate period after he's assumed the sometimes burdensome obligations of buying a home.

Despite such concessions, though, Algeri insists, "We make proven profits on both our hot water heating installations and our fueloil business. Anyone interested is welcome to visit Waltham and we'll be glad to show him the figures."

The last comment came from an oil-heating dealer association, remarking that if Algeri didn't buy the radiation and boiler at below jobber's cost, then "many of the materials being used must be decidedly inferior.

"On the contrary," Algeri states

PLUMBING
FLOW CONTROLS AND TEMPERING VALVES
CONTROL WITH
DOLE
PLUMBING AND HEATING PRODUCTS
FOR GAS, OIL OR STOKER FIRED ONE-PIPE
STEAM
SYSTEMS
A point-of-sale display to help you sell
Flow Controls; Air and Vacuum Valves;
Hot Water Air Valves and Automatic Registers.
AIR VALVES FOR
HOT WATER
HEATING SYSTEMS
AUTOMATIC REGISTERS FOR FORCED
WARM AIR
INDIVIDUAL ROOM TEMPERATURE CONTROL
Control with Dole TRADE MARK
DOLE
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1933 Carroll Ave., Chicago 12, Ill.
Representatives in Principal Cities
A limited number of Dole "mobiles"
are still available
for use by qualified dealers.
Write for information on your
business letterhead.

ELIMINATE This...

OUTSIDE BAG FROM YOUR G. E. or PREMIER FURNACE CLEANER

...Get the SOOTMASTER Filter Unit

with THROW-AWAY BAG!

SOOTMASTER Filter Unit, designed for easy installation in container of G. E. and Premier Furnace Cleaners, eliminates the outside bag. Gives double protection against leaks and blow-outs. THROW-AWAY BAG provides a safe and easy method of dirt disposal.

$19.75 Complete with 10 throw-away bags and quick-release tie-cord.

• Order from your jobber
• Jobbers' inquiries invited

Master-Craft SUPPLY CO., INC.
HAVERSTRAW, NEW YORK

"We buy and install nothing but quality products. For example, when we know that we are going to need a quantity of equipment, we'll submit specifications to various supply sources, specify exact type and make of product and ask for bids. The lowest bidder gets the sale. Then, if we find that we can purchase equipment at a reduced price, even though we don't need it right away, we'll buy it and store it. As far as we're concerned, equipment in storage is better than money in the bank.

"Then we've established a reputation, of which we're quite proud too, of making it a practice to discount every bill we get.

Quality Equipment

"As to equipment, we regularly use American Standard boilers, Taco or Bell & Gossett circulators, Tuttle & Bailey convection. I'm sure you'll agree this is all quality equipment."

This same dealer association asked a local engineer to figure the job on which Algeri had reported and came up with both cost of materials and selling price of the job better than 40% higher.

Algeri's immediate reaction was to say "I only wish I were close enough to sub-contract this work on the basis of your estimates. Seriously, though, I extend the same cordial invitation to you to compare my materials and installation with anything that someone else might use. I believe firmly that too many oilheating jobs are being lost because they're over-priced and I can only repeat that we've found I-B-R methods and training useful in enabling us to cut our costs without sacrificing quality or efficiency."

It's interesting to note that Algeri was in the range oil business before the war, left to enter the Army in 1942, was discharged in 1943 as a disabled veteran and finally in 1944 purchased a small fueloil concern. The company had but a dozen heating oil accounts and about 30 range oil customers. In 1946 Algeri recognized that to insure continuing growth of his fueloil business, he'd have to offer oilheating equipment, and so began doing conversion jobs.

Up to this time he was doing all the work himself, but by 1948 he found it necessary to hire a man to help with oil delivery and installation work and two years later added a regular truck driver. Algeri was not figuring the jobs himself, but did so after attending the I-B-R school in 1952. By this time his business had grown to an annual volume of about 600,000 gallons.

Today, by virtue of the 200 oilheating jobs he installs each year in new homes, plus modernization, replacement and conversion work, he's reached a total of 1,000 customers to whom he delivers about 1.5 million gallons. Confidently, Algeri, expects to do even better in 1956 and already by mid-January had booked 114 complete heating systems in new homes.

In closing, it should be made clear that the explanatory comments were secured from Algeri, not in any sense to belittle the sincere objections registered by some of the people who wrote us about the article on his company. We recognize that such an operation perhaps wouldn't be possible for everybody, but felt it was well worth reporting since it reflected the results of close attention to administrative detail and continuous checking which enable an oilheating dealer to install complete boiler heating systems for builders on a quality scale and at a profit.

❖

W. M. Reed, 63, founder and chairman of the board, American Air Filter Co., Inc., Louisville, Ky., died at his winter home in Ft. Lauderdale, Fla., recently. He formed the Reed Air Filter Co. in 1922 which was the parent company of American Air Filter. AAF was organized in 1925 as a patent-holding company, and then reorganized in 1929 by the consolidation of five air filter firms.

Elmore T. Scheck has been named regional sales manager of Wisconsin, Northern Illinois and Upper Michigan, by Mueller Climatrol, Milwaukee, Wis. Other Mueller appointments include: *M. H. "Tommy" Thomas* as regional sales manager in Indiana, Ohio, Western Pennsylvania and most of Michigan; *Chester J. Vopal,* manager of traffic and warehousing; and *Fred Heise,* manager of repair parts department.

Three-quarters of Space for N. Y. oilburner Show sold

AT THE MEETING of the board of directors of the Oil-Heat Institute of America in Cleveland in January, R. S. Bohn, chairman of the Show Committee for the 21st National Oil Heat and Airconditioning Exposition, announced that 75% of all available exhibit space has been sold. The Show, to take place in New York, June 11 to 15, is one of the first exhibits scheduled for the new Coliseum, which is opening in April.

A meeting of the OHI Convention Committee was held February 16 at the Park Sheraton Hotel, New York, where Fred Weldon, chairman of the committee, revealed that exhibit space was now 85% sold out. The Park Sheraton has been designated as headquarters for the Institute's 34th annual convention, which takes place concurrently with the exposition.

Hotel room reservations should be made through Miss Sylvia Peltonen, manager, Housing Bureau, New York Convention and Visitors Bureau, 90 East 42nd St., New York 17, N. Y. She should be told in requests for accommodations the time of arrival and departure, type of hotel rooms and approximate rates desired.

Weldon's committee meeting attended by 23 OHI members and three staff members worked out a preliminary meeting schedule which calls for all OHI meetings to be held on the first day, Monday, June 11. This will include the retiring OHI executive committee and board of directors, annual meetings of the divisions and the annual meeting of the Institute.

A breakfast meeting for manufacturer division members, with T. A. Crawford as chairman, opens the day's program on June 12, followed by a meeting for manufacturers of equipment and accessories, G. M. Marin, chairman. Also during this morning there will be an engineering and technical session, sponsored jointly by the Engineering Committee and Technical Division.

Wednesday, June 13, is the day for the Distribution Division's general meeting, with the premiere of a new 13½ minute color television film planned for the session to be held from 9:30 A.M. to noon. And, at the same time the Commercial-Industrial Sections will sponsor a program for members of the industry, architects and engineers. An "invitation" cocktail and buffet affair for architects and engineers interested in commercial-industrial oilheating will follow.

A second general meeting sponsored by the Distribution Division is to take place on the morning of June 14. And at noon on that day there is to be an OHI luncheon to take the place of an evening banquet, which would interfere with exposition attendance.

Distribution Division sessions in addition to showing the color film are expected to show eight to ten of the 30-minute service-installation film strips provided by Accessory Division members, plus a 45-minute film strip, produced for OHI by Burroughs Corp. on management, accounting and degree-day procedures for fueloil dealers.

Exposition hours will be from 1:00 to 10:00 P.M., June 11, 12, 13 and 14 and from 1:00 to 6:00 P.M., June 15.

❖

Buffalo Oil Men explore Marketing Education

AT A MEETING ON January 27 at Buffalo's Hotel Sheraton a program was launched to look into the needs for petroleum marketing education and to confer with school authorities on getting courses started.

The discussion centered around oilheating technical courses at the vocational school level within the public school system, and also a two year college course in petroleum marketing. These would follow somewhat along the lines of New York City's experience.

After a luncheon meeting with 30 oil men and educators present it was decided that a committee from the group should carry the activity forward in co-operation with local school officials.

Chairman of this new committee is William D. Baskett, Jr., Frontier Oil Refining Corp., Buffalo, also a member of the state's Petroleum Education Foundation. Other committee members are Morton Dimet, Simon Oil Co.,

QUESTION:

Which man is on the right road to customer satisfaction and PROFITS IN SERVICE?

"Time enough to replace electrode assemblies when they fail to work. Let well enough alone, I always say."

"We fix oil burner troubles but we don't anticipate them. Our men don't bother with electrode assemblies unless they actually are causing burner trouble."

"When our men find electrode assemblies that even look old and 'beat,' they take no chances on callbacks for that kind of trouble. They protect the customer and ourselves by installing brand new —

Sparktrodes by DIELECTRIC

Service Organizations: When you order SPARKTRODES from a Dielectric Jobber you are assured of finest quality equipment and fastest service. We back our Jobbers' well-balanced stocks with same-day shipment to them of SPARKTRODES for any of 316 different makes of oil burners. Names of your nearest "Dielectric" Jobbers gladly furnished.

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PRODUCTS COMPANY, INC.
Jersey City New Jersey

bigger filter in PREMIER furnace cleaners doesn't need cleaning before the can is full

In furnace cleaning, it's not the size of the can; it's the efficiency of the filter* that counts. Now, for the first time, a full ½ bushel-capacity cleaner! You can do a perfect job and never have to worry about lugging cleaning equipment around. Notice that this machine is only ½ the size of ordinary cleaners.

PREMIER's giant pleated filter has 3 times more working filtering area than other makes. This means you don't have to clean the filter so often either. 2 out of 3 filter-cleaning interruptions are avoided. Jobs go faster. You make more profit per job.

"OLD RELIABLE"—famous Premier furnace and air conditioning cleaner (P-908F) now also available with this new auxiliary filter. For information on *all* Premier furnace and air conditioning cleaners, write today for Folder FB14.

For complete information, write today to . . .

*Patent applied for.

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35 Gerrard St. West, Toronto, Canada

Niagara Falls; Mel Ehrlich, American Lubricants; R. B. Newman, Newman Fuel Corp.; J. W. Pfeifer, Canlake Petroleum Corp.; H. J. VanNortwick, Atlantic Refining Co.; and J. A. Collins, Frontier Oil Refining Co.

The Petroleum Education Foundation had 11 members at the meeting, most of whom had come up from New York City for the day. In addition to Baskett, previously mentioned, the other Foundation members present were L. T. White, John F. Albright, Mrs. Betty Hawley Donnelly, Fred Meeder, Samuel Rosenwasser, Philip H. Schepp, a Mr. Ames representing Henry Schwartz, Bruce Wemmett and Robert Gray, all from New York City, and George Savory of Binghamton.

Local oil men taking part in the discussion, other than those mentioned on the new committee, were Simon Dimet, V. J. Harder, H. L. Ebert, H. R. Katzman, J. H. Keeler, Clayton Maxwell, L. B. Schintzius, R. F. Tinsley, W. S. Ware and John Wynes.

The educators present, in addition to Mrs. Donnelly, who is a trustee of the State University of New York and head of the Advisory Board for Vocational Education in New York City, were Dr. Lawrence L. Jarvie, executive dean, Community Colleges, State University of New York, and Dr. Geral B. Leighbody, associate superintendent of schools, Buffalo.

Also Dr. Laurence E. Spring, president, Erie County Technical Institute, Dr. Nortar, dean of the Institute. From New York City Community College were John MacIntosh, department head, Industrial and Petroleum Distribution, and M. M. Streisand, consultant and lecturer in Petroleum Technology.

U. S. tank truck Fleet grows a Third since '52

ACCORDING to a report by the National Petroleum Council, Washington, D. C., 31,012 tank motor vehicles with a capacity of 174,275,550 gallons, are in service in the United States to carry petroleum products. This is an increase in capacity of 33.2% over 1952 when the last report was issued.

A breakdown of equipment shows 36,076 tank trucks, semi-trailers and trailers in general and special service, including 31,012 general purpose units; 3,077 liquefied petroleum gas units; and 1,987 for hauling chemicals.

For-hire general purpose tank and trailer units number 16,046 and have a total capacity of 96,735,600 gallons and represent 6,029 gallons per unit. Private carriers operate 14,966 general purpose units with a capacity of 77,539,950 gallons, averaging 5,181 gallons per unit.

Lee R. Cowles, Standard Oil Co. (Ind.), headed the Census Subcommittee which conducted the survey.

❖

Baseboard radiator Sales show large Increase says IBR

DURING THE FIRST nine months of 1955 shipments of baseboard-type radiators increased 37.9% over the same period of the preceding year, according to the Institute of Boiler and Radiator Manufacturers, New York.

Other products in the hot water and steam heating industry also showed record increases: cast-iron boilers are up 21.7%; and industrial-type finned tube radiation is up 30.1%. It is estimated that steel boilers are up about the same percentage as cast iron boilers.

According to R. E. Ferry, general manager, 1955 should be the greatest year in the industry's history. He said that the figures indicate that hot water heating systems of all types are being installed in an increasingly large percentage of American homes.

Of the total number of cast-iron boilers shiped 95.3% were automatically fired; 79.6% were of the hot water type while 20.4% were steam boilers.

❖

Contract Awards hit high during January says Dodge

REPORTS of contract awards for future construction in the 37 eastern states set a new record for January at $1,858,228,000—a 25% increase over January a year ago.

Reversing a declining tendency which appeared late in 1955 residen-

how PREMIER furnace cleaners cut your labor-time costs

Labor-time takes 90% of your maintenance cleaning costs. PREMIER saves you money because it reduces that time. Here's how:

1 You spend less time on each job because of special pleated filter design. The filters in PREMIER machines are 3 times larger than others . . . 3 times more working-filter area than other makes. This saves time . . . boosts profit of each job. Notice this machine is half the size of ordinary cleaners, yet holds a full half bushel.

2 PREMIER equipment is practically maintenance-free because their special built motors are well ventilated to run cooler. Extra air flow over the motor is possible also by the exclusive "3-times larger" filter. This means longer motor life.

3 All models are completely equipped with standard attachments. Special tools for out-of-the-ordinary jobs are also available.

PREMIER YOUR BEST BUY

4 Low initial cost due to high volume of sales. Fine engineering design born of years of experience have made PREMIER machines the preference of cleaning men.

5 Listed by Underwriters' Laboratories and Canadian Standard Ass'n.

"OLD RELIABLE"—first and most famous Premier furnace and air-conditioning cleaner (P-908F) with external filter bag for "hot jobs" now also is available with new 3-times-larger internal filter. For information on *all* Premier furnace and air conditioning cleaners, write today for Folder FB14.

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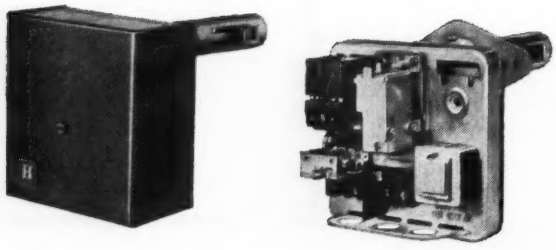
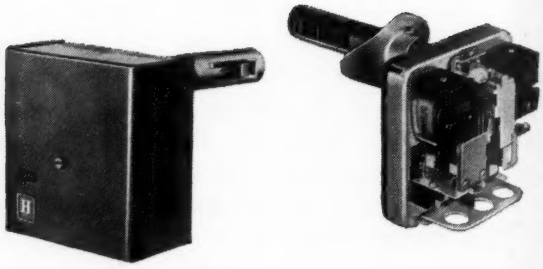
The only complete li



RA816A Protectorelay—a stack-mounted relay for *constant* ignition oil burners. Recycles on power or flame failure and has minimum pull-in voltage protection. U-shaped bimetal operates quickly on small changes in stack temperatures.



RA817A Protectorelay—a stack-mounted relay for *intermittent* ignition oil burners. Recycles on power or flame failure and has minimum pull-in voltage protection. U-shaped bimetal operates quickly on small changes in stack temperatures.

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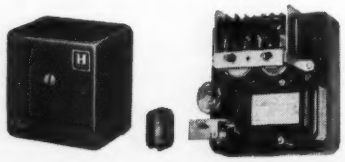
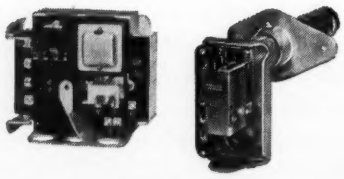
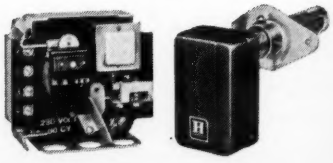


R887 Protectorelay with Q174 photocell—the *fastest* and the safest *electronic* relay available today. When flame failure occurs, ignition is returned immediately by the photocell which is continuously sighting the flame. The safety switch timing is set for approximately 45 seconds.



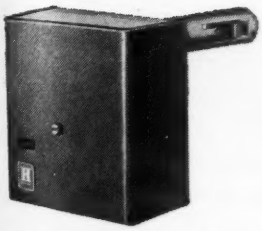
R896 Protectorelay with C532B Pyrostat—a two-piece oil burner relay for *constant* ignition oil burners. Pyrostat is installed in stack or flue passage for combustion protection. The Protectorelay which sequences the burner operation is normally mounted on oil burner.

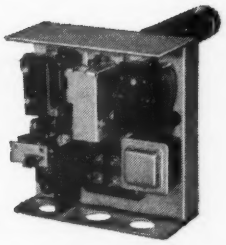


R897 Protectorelay with C532B Pyrostat—two-piece oil burner relay for *timed intermittent* ignition oil burners. Pyrostat is installed in stack or flue passage for combustion protection. The Protectorelay which sequences burner operation is normally mounted on oil burner.

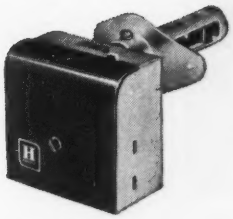
For full information on this complete line of relays, call your local Honeywell office or write to Honeywell, Dept. FH-3-44, Minneapolis 8, Minnesota.

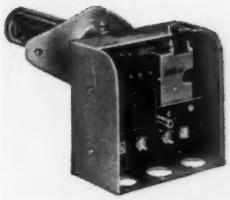
line of relays!





RA817C Protectorelay—for *rotary* oil burners and for furnaces or boilers where *low stack* temperatures are a problem. Provides intermittent-timed ignition and recycles on power or ignition failure. Adjusted for minimum pull-in voltage protection.





R494A Protectorelay—a *line voltage* constant-ignition oil burner relay designed for mounting in the stack or flue passage. Most commonly used on forced hot-water systems that employ another low-voltage relay for controlling the circulator.

All with recycling feature!

oil burner need

Here's why it pays to "order Honeywell"

1. **Your installation will work better**
2. **You have the widest choice of controls**
3. **You have the world's best field service**
4. **You make fewer service calls and more profit**

MINNEAPOLIS
Honeywell

First in Controls

112 OFFICES ACROSS THE NATION

fueloil & oilheat

INSTALVELOPE

ENDS BUDGET ACCOUNT HEADACHES FOR YOU— AND YOUR CUSTOMERS!

Speeds Budget Collections:

Payment Coupons with envelope attached are bound in Customer's Payment Record Book and provide immediate and positive identification of account and excellent posting medium.

Experience has proved use:

1. **Increases payment on due date by average of 3 days per payment.**
2. **All information available for crediting account.**
3. **Eliminates correspondence and errors.**
4. **Customers like courtesy, efficiency and convenience.**

Advertises Your Products:

Provides powerful and economical means of advertising your other products and services to a known and complete "captive" audience at pre-determined intervals throughout the year.

Thousands of Instalvelopes in use from coast to coast!

Write or wire us for sample Book and complete information:

EFFECTIVE TOOLS FOR EFFECTIVE MANAGEMENT

ETEM

WASSELL ORGANIZATION, INC.

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Tear Off

Please send me without obligation, sample book and complete information.

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COMPANY .....

ADDRESS .....

CITY & STATE .....

tial building awards totaled $694,392,000, 3% higher than a year ago. Nonresidential building set a new record of $661,275,000, 17% ahead of January last year.

Several unusually large projects in Pennsylvania and Ohio boosted the heavy engineering contracts to the greatest percentage increase. The total of $502,561,000 for public works and public utilities was a new record, up 102%.

❖

Dean Randall has been promoted to advertising manager, Minneapolis Divisions, Minneapolis - Honeywell Regulator Co. He has been assistant advertising manager for the past two years and will have responsibility for advertising of the firm's residential and commercial heating and airconditioning divisions. Randall has been with Honeywell since 1951.

Vince Tassi and *Lyle Russell* have been appointed industrial managers in Hartford, Conn., and Chicago, respectively, for the Industrial Division, Minneapolis - Honeywell Regulator Co., Minneapolis. Tassi has been with the company for 24 years and was associated with the New York office. Russell, a 10-year man, was manager at Hartford, Conn.

Herbert Wolf has been named chief engineer, Research and Development, Air Conditioning and Refrigeration Division, Worthington Corp., Harrison, N. J. Wolf joined Worthington in 1950 as a product engineer. He will be based at the Harrison Division until the division moves to the new plant in East Orange, N. J.

Earl Hudson has been named general manager of a new plant in Pottersville, Calif., recently opened by Rockwell Manufacturing Co., Pittsburgh. He had been assistant general manager of the plant at DuBois, Pa. He went to work for the company in 1937 and became purchasing manager in 1943, and assistant general manager in 1946.

Letters

PIPING ROCK FUEL CORP.
Halesite, L. I., N. Y.

Editor:

In the February 1956 issue you wrote about the 325 gallon tank in your "Editorial Leaks" page.

It is of great concern to us the effect that a 325 gallon tank may have on the present home heating oil price structure. It is our opinion that such a move for a 325 gallon tank will make the life of a fueloil dealer almost unbearable because the owner of such a tank would logically assume he is entitled to the same courtesy as a 550 tank owner when it comes to the half cent allowance for deliveries of over 300 gallons.

We have not seen any cost figures for a 325 gallon tank nor do we know what gauge it is proposed to use. Rather than increase the size of the tank, why not return to the prewar gauge of metals?

Sees Need for Selling

It would seem that we'd be doing an injustice to ourselves to accept a 325 gallon "inside" tank when with some salesmanship—that is what we need—we could sell an outside 550 gallon tank or a twin 275 gallon tank at a profit. This would be in place of a small 50 gallon storage difference that could easily upset the price structure and maybe even delivery schedules.

We have learned the hard way that unless we speak out against something, it is taken for granted we are for it. This is not the case now and we believe it will take a world of convincing that a 325 gallon tank for indoor storage is the answer or even a small part of the answer to our distribution problems.

LEONARD BRAUN
General Manager

❖

C. L. Boyer & Co., Billings, Mont., will represent the draft control line of the Field Control Div., H. D. Conkey & Co., Mendota, Ill., in the Montana area.

AND HERE ARE A FEW of the "ways" the Shell Oil Burner Testing Laboratory at Sewaren, New Jersey, has developed to raise standards in the oil heating industry:

- Pioneer work in standardizing grades of fuel oil.
- Release of the Shell-developed "Combustion Head" to the oil burner industry.
- The Shell "Smoke Meter," the first simple, reliable device for measuring flue gas smoke and its effect on heating efficiency.
- FOA-5X*, the fuel oil additive that prevents clogging of oil burner filter screens.
- Automatic apparatus to measure boiler efficiency under actual service conditions.
- Shell Sonitor*, the rust inhibitor that gives oil storage tanks long-term protection against corrosion.

Research now underway at Sewaren promises even more benefits to manufacturers, distributors and consumers.

*Trademark Registered U. S. Pat. Off.

SHELL OIL COMPANY

SHELL

fueloil & oilheat

General Electric Stack Switch Adjusts Eliminates Leveling, Gives Long-life

Rubber grommet for thermostat wire protection
Clutch provides automatic stack temperature adjustment
Combination transformer relay is sealed against dirt and dust
Positive thermal timer is factory adjusted
Thermal reset button is conveniently located
Clearly marked terminals and ample wiring space
TURN AND RELEASE
GENERAL ELECTRIC
MASTER CONTROL
CR7865A101A2
115 VOLTS 60 CYCLES
MOTOR RATING
AMP. F. L. 7.4 AMP. L. R. 44
PILOT DUTY RATING 125 V.A
CONTROL CIRCUIT
25 VOLTS 0.25 AM
SCHENECTADY, N. Y.

G-E CONTROLS

REMOTE MOUNTED G-E master control and flame detector are ideal for applications where larger gallon-per-hour capacity of oil burners requires faster control.

Automatically, Performance

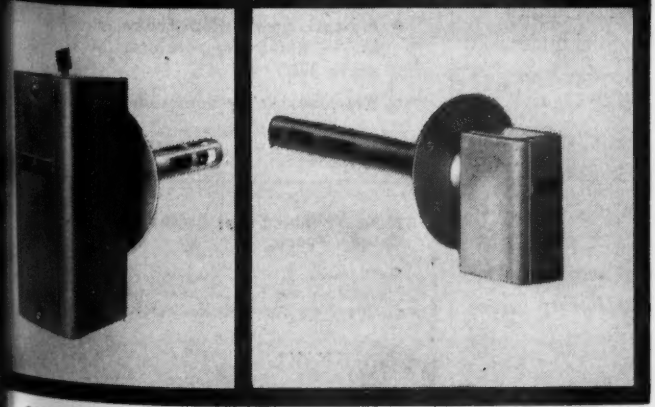
General Electric's stack mounted master control is designed for highest quality, minimum servicing and ease of installation. Eliminated are the troublesome needs for leveling, adjustments and call-backs due to nuisance lockouts. You simply install the G-E control, set the knob on the "cold" side and forget it. In addition, the master control automatically recycles once after a flame failure. And, even though it's lighter in weight, the G-E control will stand plenty of abuse and requires no special handling. The high-quality features designed into the master control are typical of all G-E domestic heating controls. Another major advantage in using G-E heating controls is the exchange plan.

G.E.'s EXCHANGE PLAN, available to you through the nationwide G-E distributors listed at the right, enables you to exchange an inoperative heating control—of ANY MAKE—for a factory reconditioned G-E heating control of a similar function. Take your inoperative controls to your nearest G-E distributor today. He'll provide you with excellent service, and you'll get the replacement control at a substantial reduction in price! General Electric Co., Schenectady, N. Y. 740-95

Progress Is Our Most Important Product

GENERAL ELECTRIC

MOUNT IN ANY POSITION



G-E FAN AND LIMIT control can be used with oil-, gas-, or coal-fired systems. It combines in one enclosure the necessary units to control fan operation and to provide greater safety limit protection for the system. Separate limit or fan controls are available.

PICK YOUR LOCAL G-E DISTRIBUTOR FROM THIS NATIONWIDE LIST*

ALBANY, N. Y.
Cert. Fuel Unit Service
Colonial Heating Equip.
ALLENTOWN, PA.
Sid Harvey, Inc.
ARLINGTON, VA.
Sid Harvey, Inc.
AUBURN, N. Y.
Rood Utilities Co.
AURORA, ILL.
Scott Wood & Metal, Inc.
BALTIMORE, MD.
Sid Harvey, Inc.
R. E. Michel Co.
BATTLE CREEK, MICH.
Columbia Metal Service
BLOOMINGTON, ILL.
MaGirl Foundry & Furnace
BOSTON, MASS. Area
Cronin Supply Co.
F. W. Foley Co.
Sid Harvey, Inc.
Metro Supply Co.
Mattapan Supply Co.
BROCKTON, MASS.
R. H. Austin Co.
BRIDGEPORT, CONN.
Sid Harvey, Inc.
BUFFALO, N. Y.
Rochester Oil Burner Co.
BURLINGTON, N. C.
Alley & Rader Services
CALDWELL, N. J.
Cent. States Supply Co.
CHARLOTTE, N. C.
Burner Supply Co.
CHESTER, PA.
Hepco Co.
CHICAGO, ILL.
Robert Barclay, Inc.
Place Brothers
C. E. Sundberg Co.
CINCINNATI, OHIO
F. E. Winstel Co.
CLEVELAND, OHIO
Ohio Pump Service Co.
COLUMBUS, OHIO
Columbus Auto. Sprayer
DAVENPORT, IOWA
Republic Electric Co.
DECATUR, GA.
Rayheat Equip. Co.
DES MOINES, IOWA
Dennis Supply Co.
Heating Wholesalers
Ace Supply Co.
DETROIT, MICH.
Hydraulics Pump & Repair
National Furnace & Sheet Metal Co.
Pelton Distributing Co.
Wholesale Oil & Gas. Sup.
EDGEWATER, N. J.
Kogan & Company
ELIZABETH, N. J.
Cert. Fuel Unit Service
EVANSVILLE, IND.
Swanson-Nunn Elec. Co.
FLINT, MICH.
Moore Bros.
FORT WAYNE, IND.
Tri-State Htg. Supply
GARY, IND.
G. W. Berkheimer Co.
GRAND RAPIDS, MICH.
Mich. Auto Htg. Equip.
GREEN BAY, WISC.
Beemster Elec. Co.
HARRISBURG, PA.
Fuel Savers, Inc.
HARTFORD, CONN.
Sid Harvey, Inc.
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JACKSON, MICH.
Leo. A. Tilford, Inc.
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KANSAS CITY, MO.
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LANSING, MICH.
Contractors Sy. Co.
LOUISVILLE, KY.
Marine Elec. Co.
LOWELL, MASS.
Sid Harvey, Inc.
MADISON, WISC.
Wisconsin Htg. Equip.
MALDEN, MASS.
Sid Harvey, Inc.
MERCHANTSVILLE, N. J.
Cert. Fuel Unit Service
Sid Harvey, Inc.
MILWAUKEE, WISC.
Refrigeration Parts Co.
Heating Parts Exch.
MORRISTOWN, N. J.
Amber Oil Burner Sup.
NEW HAVEN, CONN.
A. R. Webber Co.
NEWARK, N. J.
Cert. Fuel Unit Service
Sid Harvey, Inc.
Winston, Company
NEW YORK CITY, N. Y. Area
Sid Harvey, Inc.
Michael & Goldberg Plbg. & Htg.
Radiant Burner Supply
Atlantic Burner Supply
NORFOLK, VA.
Sid Harvey, Inc.
NORRISTOWN, PA.
Sid Harvey, Inc.
NUTLEY, N. J.
Nutley Oil Burner Supply
OMAHA, NEBR.
Dennis Supply Co.
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Industrial Equip. Co.
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SEATTLE, WASH.
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Crescent Elec. Co.
SPOKANE, WASHINGTON
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SPRINGFIELD, MASS.
Gray Supply Co.
Sid Harvey, Inc.
STELTON, N. J.
Sid Harvey, Inc.
SYRACUSE, N. Y.
Oil Burner Supply Co.
THOMASVILLE, GA.
Industrial Equipment Co.
TOLEDO, OHIO
Fry Furnace Co.
TRAPPE, PA.
Jacob H. Bowers Co.
TRENTON, N. J.
Lincoln Supply Co.
Sid Harvey, Inc.
TROY, N. Y.
Century Supply Co.
UNION CITY, N. J.
Sid Harvey, Inc.
UTICA, N. Y.
Rood Utilities Co.
VINELAND, N. J.
Hepco Company
WASHINGTON, D. C.
Sid Harvey, Inc.
R. E. Michel Co.
WATERLOO, IOWA
Heating & Cooling Supply
Heating Wholesalers
WILMINGTON, DEL.
Greenburg Supply Co.
Rain Burt Supply Co.
Sid Harvey, Inc.
WOODBURY, N. J.
Sid Harvey, Inc.
WORCESTER, MASS.
Sid Harvey, Inc.
John W. Walsh, Inc.
YORK, PA.
Sid Harvey, Inc.
ZION, ILL.
Mid-Way Supply Co.

** This list is continually being expanded to supply you with even greater G-E heating control service.*

PROVEN SUPERIOR!

OIL

Yes, the Eddington line of oil burner nozzles are PROVEN SUPERIOR! The years of service to the oil heating trade have firmly established these nozzles on the "PREFERRED" lists of the leading oil burner and equipment manufacturers throughout the country. The finest craftsmanship, uniform dependability, and quality stainless steel construction are the important factors of the excellent performance experienced by the men who know best.

The next time YOU buy nozzles specify *Eddington*

EDDINGTON METAL SPECIALTY CO.
EDDINGTON, PA.
Write for complete information and prices

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 5th.

New York Group holds Dinner-Meeting, Feb. 6

A REGULAR MEMBERSHIP MEETING of the New York Oil Heating Association, New York 36, N. Y., took place on February 6 at the Belmont Plaza Hotel. Better than 100 members attended the business session, which followed dinner, and heard three speakers discuss topical subjects.

Opening speaker was Dr. Otto Klitgord, president of the New York City Community College, where a Petroleum Distribution Course is conducted as part of the regular curriculum. Dr. Klitgord discussed how oilheating dealers can improve their competitive position through education, which enables them to know more than the other fellow.

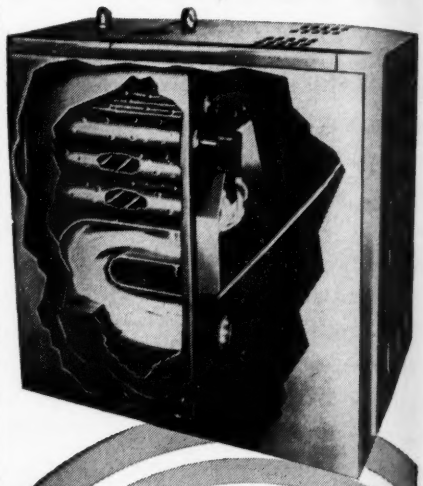
Competition, he continued, is essential to our country. The gas industry is unified and equipped to capitalize on the competition's problems and mistakes through the use of well-educated personnel. So, it becomes imperative for oilheating dealers to be able to offer the successful competition that comes from new devices and improved methods of doing business. Such progress, Dr. Klitgord declared, comes initially from good will and then through education.

In short, he concluded, oilheating competition must be good enough, strong enough and smart enough to stay in business. Dr. Klitgord reminded the dealers that he can offer through the facilities of his college the opportunity to conduct seminars, discussion groups and instructive classes designed to teach them how to strengthen public relations and thus get more customers; better business methods; improved service and installation practices; more effective advertising and sales promotion.

Other speakers were: Max Brofman, chief tax counsel, Bureau of Excise Taxes, City of New York, who dis-

THE NEW YORKER HORIZONTAL BOILER

...offers you top efficiency and economy!



The NEW YORKER horizontal tube boiler provides top heating efficiency because of its scientific "three-pass" design, offering maximum heat transfer and lowest stack temperature. All heat passages are surrounded by heat-absorbing surfaces. Beautifully jacketed in blue-and-gray hammertone finish.

- Oversize, large capacity tankless water heater.
- Fire-tubes of extra heavy gauge steel.
- Pre-cast combustion chamber withstands temperatures up to 3200° F.
- Fire-tubes easily accessible.

Send coupon NOW!

New Yorker Steel Boiler Co., Inc.
Colmar, Penna.

Gentlemen:
Please rush me full information and prices on the New Yorker horizontal tube boiler!

Name .....
Street .....
City ..... State .....
Type of Business .....

You are invited to the

21st NATIONAL Oil Heat and AIR CONDITIONING EXPOSITION

The New, New York City

COLISEUM

JUNE 11-15, 1956

First Oil Heat and Air Conditioning Exposition Held in New York by OHI in 30 Years—First For The Trade in The Coliseum

The Coliseum, a $35 million building, largest of its kind in the world, provides unequaled facilities for your trade show. The entire 3rd floor—70,000 sq. ft. of floor space — all air conditioned — will house hundreds of exhibits. 85% exhibit space already sold. Registration is in a private lobby on the first floor. Special escalators and elevators take you direct to the big show. Food is served in the building. Parking facilities in the basement accommodate 850 cars. No admission charge for members of the industries — your registration badge admits you all days. Hours 1 to 10 P.M. on Monday thru Thursday, 1 to 6 P.M. on Friday.

Spend Your Mornings at Stimulating Business Management Conferences Covering All Phases Of Our Industries.

These conferences — sponsored by the 34th Annual OHI Convention — will be held at the Park Sheraton Hotel within a block of the Coliseum at Columbus Circle opposite the southwest corner of Central Park. The Convention Committee, building the complete program, will feature outstanding, successful operators of oil heating and air conditioning businesses as speakers and conference leaders. Your sessions will jump with inspiring, usable ideas to help you make more money in your business . . . right down to bolts and nuts in practicality. Plan to come! The small fee charged will be far outweighed by any one of dozens of new ideas you'll take home.

MAKE YOUR HOTEL RESERVATIONS NOW

Write to Miss Sylvia Peltonen, Mgr. Housing Bureau, N. Y. Conv. & Visit. Bureau, 90 E. 42 St., New York 17, N. Y. 20 hotels have blocked off 3,000 rooms. Singles $6-19; doubles $8-20; also suites. Tell her you're coming to the Oil Heat Exposition, accommodations desired, your price range, time of arrival and departure. She will have accommodations confirmed by the hotel selected for you. *Write today!*

ENTERTAINMENT

Tickets will be made available for you, *the wife* and family for TV and Radio Shows, theatres, sight-seeing trips, night clubs, etc. to eliminate "scalper" prices. Details on the entertainment plan will soon be published.

Address Space Reservation Inquiries To The Sponsor

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LINCOLN

Gas-Fired and Oil-Fired Furnaces and Air Conditioners

COMPLETE LINE
—size ranges from 75,000 to 180,000 B.T.U. output at bonnet.

COMPLETE PACKAGE UNITS
—factory assembled and tested—ready to install.

10 YEAR WARRANTY
—on both the combustion chamber and heat exchanger.

MAXIMUM HEAT TRANSFER
—assured by high efficiency 12 gauge steel heat exchanger.

FULLY U/L APPROVED
—and acceptable by both F.H.A. and V.A.

COMPETITIVELY PRICED
—every unit priced to meet today's competitive market.

Exclusive distributor and dealer franchises are available in certain desirable areas. Inquiries are invited.

WRITE FOR FULL INFORMATION

LINCOLN FURNACE Co., Inc.

MANUFACTURERS OF GAS & OIL FURNACES AIR CONDITIONERS

232 Goffle Road • Hawthorne, N. J.

cussed the city sales tax as it relates to the oilburner industry, outlining the obligations and rights of businessmen under the law; Thomas G. Gorman, sales director, New York State Insurance Fund, who told how Association members might participate in group workmen's compensation insurance at a measurable saving over individual policies.

President Joseph L. Farrell, president, introduced Philip H. Schepp, executive secretary, who issued a progress report on the investigation the Association is conducting on stack heat exchangers. In brief, Schepp reported that none of the devices is approved for installation in New York City and if approved would have to be put in by a licensed oilburner installer; none has been approved by Underwriters' Laboratories. In addition, some of the units now are under test to determine their safety and whether or not they interfere with normal operation of the heating system.

Warm Air Association issues revised installation Manuals

PUBLICATION of six revised editions of design and installation manuals has been announced by the National Warm Air Heating and Air Conditioning Association, Cleveland.

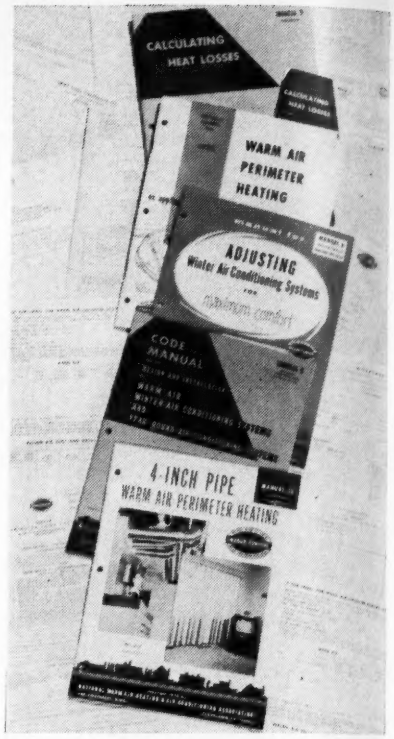
The revised manuals are as follows: "Manual 3—Calculating Heat Losses," to which have been added heat loss factors, covering a large number of the newer methods of residential construction, including many used in projects. $1.25.

"Manual 3—Simplified Method" includes heat loss factors plus a combination of tables which makes the manual easier to use. $.60.

"Manual 4—Warm Air Perimeter Heating" discusses warm air perimeter systems using 5" and 6" pipes for homes built on concrete slabs, over crawl spaces or with basements. $1.50.

"Manual 6—Adjusting winter air-conditioning Systems for maximum Comfort" gives simplified instructions on recommended procedures for balancing winter systems, and includes instructions for adjusting heat input for all fuels. $1.

"Manual 9—Design and Installation of Warm Air Winter airconditioning Systems and year-round air-conditioning Systems." This manual has design data for residential and commercial structures with heat losses over 120,000 Btu/hr. $1.



"Manual 10—4-Inch Pipe warm air perimeter Heating" describes "low velocity" perimeter systems. $1.

The manuals are available at the prices mentioned by writing the Association, 640 Engineers Bldg., Cleveland 14, Ohio.

OHA of Maryland will nominate monthly Oil Heat good Neighbor

TO FOCUS attention on the importance of the fueloil industry being good citizens in the community, the Oil Heat Association of Maryland will select an "Oil Heat Good Neighbor of the Month."

At the monthly luncheon meeting of the group, the winner will be awarded a $50 government bond. Members will suggest the name of an employee who is deserving of recognition and a committee will review the recommendations and then make a selection.

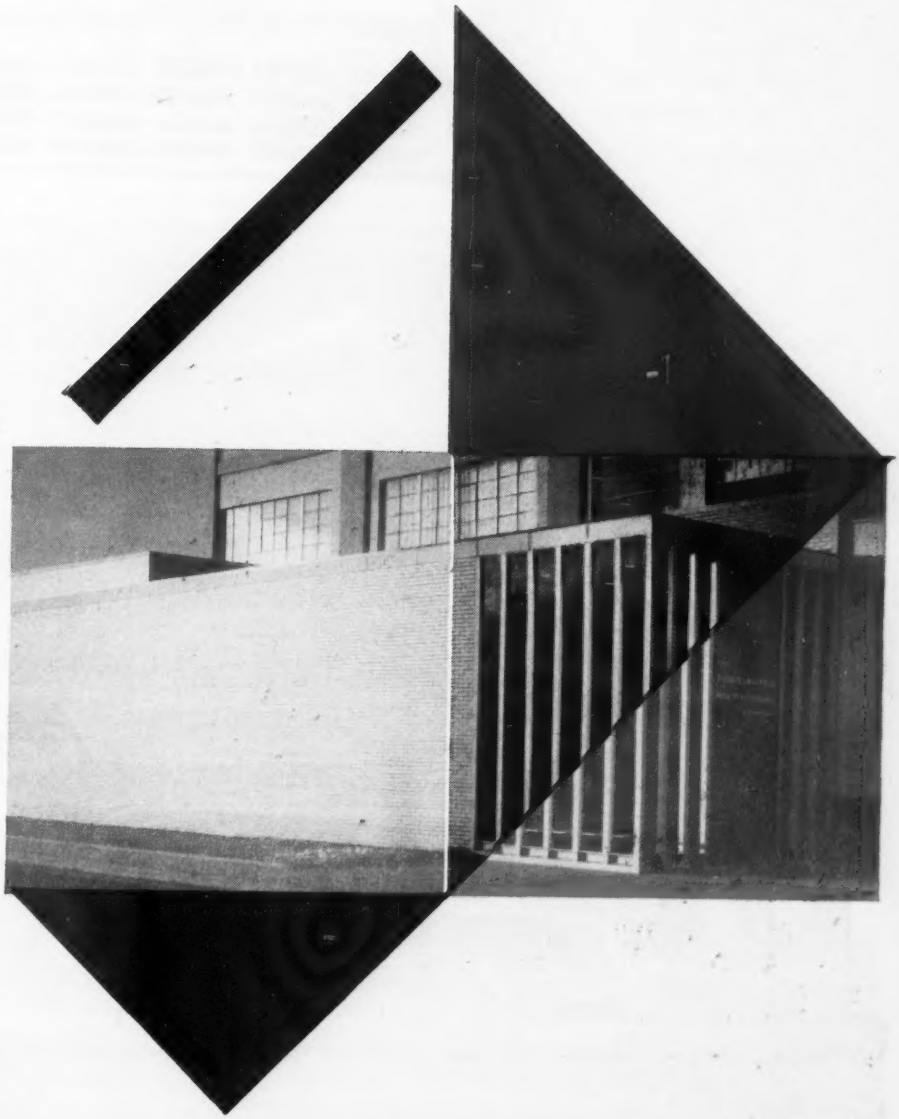
Examples of personnel who might be nominated are a driver with an exceptionally fine safety record; a driver who is known to be careful

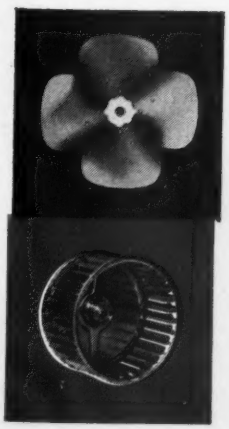
If you are in the business of manufacturing air-moving products or appliances, this is an invitation to you to visit the world's finest plants and engineering facilities devoted exclusively to the development of air-impeller equipment.

Manufacturing divisions are located at Torrington, Connecticut (headquarters), Van Nuys, California, and Oakville, Ontario. And Torrington's products and services are available to you through an organization of sales representatives with offices located in 25 metropolitan and industrial areas.

Call us—or come, and bring your problems with you!

THIS IS TORRINGTON





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CHAMPS OF EVERY

NEW 1956 CHEVROLET

WEIGHT CLASS! CHEVROLET

New Chevrolet trucks for '56 bring you new heavies, middleweights and lightweights in eight great new series—new power and performance to save more money on your hauling job!

New Heavyweights—New Tandems! All-new heavyweights in 9 wheelbases, with maximum G.V.W. ratings up to a new high of 32,000 lbs.; G.C.W. up to 50,000 lbs.

Ultra-Modern Features! Tubeless tires, standard; High-Level ventilation and panoramic visibility; plus Concealed Safety Steps on most models.

Wider Range of Drives! There's an automatic drive in every series with new Powermatic for most middleweights and heavies; Hydra-Matic for light-duty models. Both extra-cost options. A new 5-speed transmission is standard in 9000 and 10000 series models; optional at extra cost in other heavies and most medium-duty models. New heavy-duty 5-speed is an extra-cost option in models with new Loadmaster V8.

A Modern V8 for Every Model! And introducing the completely new 322-cu.-in. Loadmaster V8, standard in new 9000 and 10000 series heavyweight models.

See Your Chevrolet Dealer and his new Task-Force line before you buy.... Chevrolet Division of General Motors, Detroit 2, Michigan.

TASK·FORCE TRUCKS

Hose Swivels with EVER-TITE precision

EVER-TITE No. 2 Straight Thru Swivel

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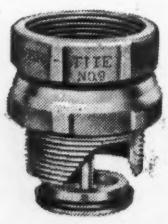
Free swivel action at all times—with parts firmly secured. Hose strain is prevented because the swivel assures quick and easy positioning of nozzle.

The Ever-Tite Swivel is always leak-proof because of a specially-designed machined seal and gasket. It is constructed of heavy-duty durable bronze—precision-engineered for typical Ever-Tite performance.



EVER-TITE No. 9 Check Valve Swivel

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Send for Bulletin F-11

EVER-TITE COUPLING CO. INC.
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about spills; one who is particularly courteous or conscientious about not blocking traffic; a serviceman who has done something outstanding or an office person who has been unusually helpful to customers.

At the presentation a picture will be taken and released to the press. Nominations can be made either by members of the Association or by the public.

Chicago Dealers hear Talk by Sinclair Oil Executive

A SPECIAL quarterly meeting of the Chicago Oil Burner Asociation, including cocktails, dinner and a guest speaker, was held at the Sheraton Hotel, February 8th.

W. D. Cross, Jr., as guest speaker, impressed all members present with his insight into matters pertaining to the oil industry. This was not surprising, for he is Vice President of Sinclair Oil and Refining Co. and District Manager of their Central District (5 states). He is also District Chairman of "Great Lakes District" of the "Oil Industry Information Committee."

The speaker touched upon past and present economic problems. He referred to a quarter of a century ago when there was little worry or fear. Our country was based upon a constitution insuring free enterprise and competition. Until a few years ago the thoughts of Socialism, Fascism and Communism were not a disturbing factor in our business planning. Such things could not happen here. Then came the gradual increase of Bureaucratic power, and the fear that we would lose some of our precious freedoms.

Apparently, Cross read the minds of his intensely interested audience, for he expressed specific opinions under the heading "Where do we go from here?" Again referring to the "isms," he said, "Americans are awakening. We will continue to have free enterprise and competition." He was not even unkindly in his attitude toward "throat-slitting," for the practice, whether we like it or not, is evidence that we have free-enterprise. The petroleum industry is so large, he explained, that no drastic changes can take place in any short period of time. Where more than 2,000,000 people are employed a reasonable degree of stability is assured.

He emphasized that we must keep in mind the fact that we have a changing economy, and an ever increasing population will consume more and more of all types of fuel. This would include oil as well as any competitive fuels. The electric heat-pump was mentioned as a competitor which may well be a factor of considerable proportions within five years or less. It was his guess that it would require at least 15 or 20 years for atomic energy to become a contender for the business now held by fuel oil.

To more or less summarize the impression left by the speech of Cross, the members of COBA are living in the richest and most productive market in the world. Any man with vision, imagination and desire, plus the ability to roll with the punches, need have no fear for the future of oil and oil-burning in Chicagoland.

Management training Course begins at Hofstra College

OIL-HEAT INSTITUTE of America, along with the Long Island Terminals Association, is sponsoring a Management Training Course at Hofstra College, Hempstead, N. Y.

In the curriculum there are 10 weekly sessions, the first on February 16 described the objectives of the course. Employee-management relations were discussed on February 23.

All sessions will use informal round-the-table conference methods chaired by Harry H. Rains, director of the Hofstra College Labor-Management Institute. Registration is limited to a class of 40, and the tuition is $75.

The schedule for the remaining sessions is as follows: March 1—Customer relations and salesmanship; March 8 — Business organization; March 15—Fleet operation; March 22—Cost control in oilburner service department; March 29—Automatic oil delivery systems; April 12—Accounting practices; April 19—Credit and collections; April 29—General management problems; summation of course.

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John James elected President of Heating Engineers Society

JOHN W. JAMES, McDonnell & Miller, Inc., was installed as president of the American Society of Heating and Air-Conditioning Engineers at the 62nd annual meeting held in Cincinnati, January 23-25.

Also installed were Peter B. Gordon, first vice-president; Elmer R. Queer, second vice-president; and Ralph A. Sherman, treasurer.

Six of the articles of the by-laws were approved covering membership grades and dues, a new method for selecting members of the nominating committee, and the establishment of chapters regional committees and a regions central committee.

The Society has drawn up a regional plan under which the chapters and branches in North America have been divided into seven geographical groups known as regional areas. The chairman of each region's central committee will be known as a regional director and will be a member of the Society's Council.

New Air Moving Association has headquarters in Detroit

THE AIR MOVING and Conditioning Association was formed recently in Chicago by 46 manufacturers of fans, units combining fans and extended heating or cooling surface, air washers and kindred products. Headquarters will be at 2159 Guardian Building, Detroit 26, Michigan.

Six divisions within the organization were designated: central station air-conditioning; centrifugal fans; industrial axial and propeller fan; power roof ventilator; residential fan; and unit heater.

R. W. Nelson, American Air Filter Co., Inc., was elected president; J. F. Snow, Davidson Fan Co., and C. C. Cheyney, Buffalo Forge Co., vice-presidents; W. H. Rietz, Ilg Electric Ventilating Co., secretary and treasurer.

In charge of the Association headquarters is L. O. Monroe, executive vice-president, assisted by Robert E. O'Rourke.

Directors are M. L. Aitken, Robbins and Myers, Inc.; H. F. Brinen, Young Radiator Co.; R. W. McMahon, Modine Manufacturing Co.; C. E. Reed, Reed Unit-Fans, Inc.; and W. Rutter, Burt Manufacturing Co.

Florida Home Heating Institute uses full page newspaper Ads

FULL PAGE ADS are being used by the Florida Home Heating Institute, Miami, to promote the use of "flame-type house heating." The coldest season in many years has caused this market to be particularly ripe for oilheating promotion.

The Institute was formed originally by the Florida Power & Light Co., to push oilheating. The Utility did it to relieve the peak on peak caused by an influx of northern visitors to Florida, plus the plugging in of countless electric heaters to relieve the cold.

Ads carry the headline: "Stop trying to heat your house electrically." They point out that trying to heat homes electrically dangerously overloads wiring, blows fuses and causes entire neighborhoods to be blacked out.

Two phone numbers are given for readers to call. Then the Institute gets the homeowner in touch with the dealer who can offer models and styles of heaters to fit the family's needs and budget.

The group uses as a symbol a flame enclosed in an oval carrying the slogan, "Better heat—better health and comfort."

Most of the Institute's membership is made up of oilheating equipment and fueloil dealers. B. E. Clark is managing director, and Ed Shaw, Fuel Oil Sales Co., is president.

Ritchie resigns as secretary of Association in Tennessee

JAMES I. RITCHIE, executive secretary, Tennessee Oil Men's Association, has resigned. He has been with the association since early 1955 and now is manager of sales, advertising and public relations for Trans American Oil Co. of which Gilbert B. Dickey, Jr., is president.

Mrs. Elizabeth Walker is the new association secretary. She had been Ritchie's assistant.

(*Please turn to page* 101)

Standards for Safety

New book gives details of how Underwriters' Laboratories passes on burner Safety

by
J. W. Schulz

THE safety inherent in oilheat has been of infinite importance in helping build up public acceptance of oilburners. Because oilheat is safe, more than eight million oilburners are in use today in this country.

The watchdog of the oilheating industry is the Underwriters' Laboratories, Inc., which provides UL labels for oilfiring devices it considers safe. The new UL burner-test laboratory, at Northbrook, Ill., was described in the August 1955 issue of FUELOIL & OIL HEAT.

Until recently, burner experts studying UL ideas about safety concentrated on a publication dated March 1934. Big news today is that a new UL "Standards for Safety" is available. Identified by "UL 296, Third Edition, December 1955," this is an 82-page book that rates the attention of every oilburner expert.

"Standard for Oil Burners," a section on p. 7 of the book, explains that this standard gives the judgment of the Underwriters' Laboratories regarding the basic requirements for construction and performance of burners.

"These requirements," the section continues, "are based upon sound engineering principles, research, records of tests and field experiences, and an appreciation of the problems of manufacture, installation, and use derived from consultation with and information obtained from manufacturers, users, inspection authorities, and others having specialized experience. They are subject to revision as further experiences and investigation may show is necessary or desirable."

The new book which covers the UL ideas of standards of safety for oilburners is required reading for all designers of oilburners slated to be tested at the Laboratories. From the book, oilburner designers learn in detail of the design features they have to provide to meet UL requirements. The designers learn also the details of performance tests their burners must pass before being awarded UL labels.

The new book does more, however, than instruct designers and manufacturers of oilburners. Giving clear, detailed ideas on what the UL authorities consider safe and unsafe in oilburner design and performance, the book can improve the education of technical-minded men in burner dealer organizations.

Dealers themselves, sales managers, salesmen, installation men, and servicemen can gain much by studying this book which gives insight into a thousand details related to what UL experts consider safe and unsafe in oilburner design, construction, and performance.

A serviceman should know what's in the new UL book because, for one thing, without knowledge of UL requirements he does not know if his everyday service practices conform to these requirements or make jobs unsafe in terms of UL oilburner expert thinking.

Even the glossary of this book, occupying five pages at its start, is interesting. For example, it suggests a somewhat subtle difference between a damper and an air shutter.

"Air shutter" according to this glossary is an adjustable device for varying the size of the air inlets regulating primary or second air; "Damper" on the other hand "generally is considered as being located on the downstream side of the combustion chamber, usually in a flue passage of the appliance or in the flue pipe."

Trial-for-ignition period, a term which has been gaining popularity fast in oilburner servicing circles, is well defined in the glossary as "That period of time the main burner fuel is permitted to be delivered into the ignition zone before the main flame-sensing device is required to detect main flame."

The glossary contains what amounts almost to a discussion of oilburner "Normal Care."

"Repair and replacement of parts other than those expected to be renewed periodically is not considered to be normal care," according to the latest UL ideas in the glossary.

Some examples of normal care are:

a. Cleaning or replacing nozzles, atomizers, and pilots;

b. Setting ignition electrodes;

c. Cleaning strainers or replacing strainer or filter element;

d. Resetting safety control;

e. Replacing igniter cable.

According to UL thinking, then, normal burner care does not include replacement of major parts or switching to parts of different design or dimensions to improve the safety or efficiency of a burner. It does not include switching to a better or different size ignition-system part, firing head, blower wheel, fuel unit, or nozzle-line shutoff valve.

Factory testing of a completed burner must include running it, according to p. 18 of the book, but does not necessarily include firing it.

"Each burner or its essential components are to be tested and inspected. The test may be a bench test or an operating test with or without firing. The test of parts handling fluids under pressure is to be made at rated pressure. The following are to be checked:

"1. Operating parts (motor, fan, pump, etc.) are to run freely and true at rated speed.

"2. Oil-handling parts do not leak.

"3. An ignition transformer is to supply a dependable arc.

"4. A pressure-regulating valve is to be set at a rated pressure.

"5. The motor input is not to exceed the intended value at full operating load.

"6. Electric ignition devices are to be adjusted and set.

"7. Oil-distributing devices or atomizers are to be accurate.

"8. Automatic oil valves are to function properly."

Two interesting points appear on p. 21 of the book:

First: "A burner part intended for the handling of fluids under pressure shall be designed to withstand, without rupture, a hydrostatic pressure equivalent to five times the maximum working pressure."

Second and important to servicemen who do odd tricks to burners in the field: "The various parts of a burner shall be properly assembled or joined. Soft solder shall not be used on any fuel-handling parts if melting of the solder may allow leakage of fuel. Soft-soldered joints, where permitted, shall be made mechanically secure before soldering."

Instructions for burner installers, UL experts believe, should include "draft requirements in inches of water, over the fire"; also "air requirements into the furnace or boiler room for satisfactory combustion; dimensions or size of minimum air-opening into tight rooms should be given."

Among other information that should appear on a burner are included the voltage rating and total current in amperes. But on equipment operating on 115-230 volts, single-phase and having current input not more than 12 amperes, the current rating may be shown as "Overall Rating—12 Amperes or Less." The firing rate or firing-rate range of a burner should be marked on it.

Starting at the top of p. 28, more than a full page is devoted to suitable overcurrent protection for oilburner motors, a topic on which all servicemen should be well informed because many servicemen know of dozens of burners which lack the types of adequate motor overload protection described in detail in the book. If you are not familiar with this topic of motor overcurrent protection and you do installation or service work, use this UL book to bring your knowledge up to date. Then you will be able to provide many existing installations with a new safety feature they need, but now lack.

After several pages on wiring methods, which are important to all installation and servicemen, on p. 34 comes pointers on "Fan Housing and Air Tube" which include these items of special interest to servicemen:

"A housing in which oil leaking from any oil-handling part of the assembly may accumulate shall be provided with an open drain (i.e., an inverted fan housing on a gun-type burner).

"The air tube of a gun-type burner shall be designed so that no oil may accumulate within it. Any dripping from the nozzle shall drain to the firebox. A drain shall be located to avoid blockage by refractory or cement.

"The exterior portion of a firing head within six inches, measured parallel to its axis, from the firing end and all parts normally in contact with masonry, shall be made of iron or steel. Interior parts shall be made of material suitable for the purpose and shall conform to paragraph 277 when of metal.

"The outer shell of a blast tube or firing head, if made of sheet metal, shall be such as to assure strength, rigidity, durability, resistance to corrosion and other physical properties equivalent to No. 16 gage AISI C1010 hot-rolled steel."

Such paragraphs as the last three can invite servicemen to deep thinking. Oil dripping from a leaky shaft gland of an oil pump or fuel unit should show up on the basement floor, not collect in the blower housing of a burner. But oil dripping from a nozzle because of a leaky shut-off valve should wind up in the combustion chamber, not on the basement floor, and not in a pool of oil which can accumulate in the gun tube. Experts know of burner models, now in use but designed years ago, which need a drilled hole to make them comply to these requirements.

Installation and service experts know it's no easy trick for a gun-type burner manufacturer to provide the firing end of his gun tube with a drain hole, to take care of oil dripping from a nozzle, which can't be blocked by refractory cement when the burner is being installed.

Best arrangement of oil lines to a burner, installed with the burner or worked on by a serviceman, will result from taking a tip from this sentence on p. 37 of the new UL burner book: "Tubing incorporated in the assembly of the burner at the factory shall be arranged to avoid being mechanically injured, such as by closely following the contour of the burner assembly."

Following through on that idea when installing a burner keep the oil lines close to it, not out where someone can trip over them and cause them to leak.

Servicemen who have had headaches because of cracked porcelain insulators will like this paragraph, p. 40:

"The use of a setscrew bearing directly on an insulator is not considered to be an acceptable means for securing an ignition assembly. The design is to be such that an insulator is not likely to be damaged when tightening the securing means."

The accompanying table labeled "Spacing over Surface of Insulators" is related to this UL requirement:

"An insulator shall provide a distance, as measured across the surface of the insulator, between the nearest point of bare current-carrying parts and the nearest electrically grounded metal surface as indicated in . . ." the accompanying table.

For an extremely simple reason, this table is of tremendous importance to servicemen. When setting up the

SPACING OVER SURFACE OF INSULATORS

Secondary Voltage of Ignition Transformer	Minimum Surface Distance Over Insulator, Inches
Not more than 6,000	1
Not more than 10,000	1½
Not more than 15,000	2

SAFETY CONTROL TIMING

Grade of Fuel	Maximum Main Flame Hourly Input, Kind of Ignition	Nominal Maximum Timings (Seconds) — See Note (a)	
		Trial-for-Ignition Period — See Notes (b) and (c)	Flame Failure Shut-Off — See Note (d)
1-6	1,000,000 Btu (approx. 7 gallons) Unproved igniter or pilot	90	90
1-6	2,500,000 Btu (approx. 16 gallons) Unproved igniter or pilot	30	30
1-6	5,000,000 Btu (approx. 33 gallons) Unproved igniter or pilot	15	15
1-2	Over 5,000,000 Btu Proved pilot required....	60	4
4-6	Over 5,000,000 Btu Proved pilot.....	60	4
	Unproved pilot.....	15	4

Notes to Table VIII

(a) The nominal safety timing is the designed duration of the period (plus or minus factory tolerance) determined at rated voltage of the control in a room temperature of 70 F.

(b) The maximum input for determining the trial-for-ignition period for a burner not equipped as indicated in "c" below is to be the maximum rated input of the burner.

(c) The maximum input for determining the trial-for-ignition period for a burner equipped for starting on low fire only is to be the input to the largest fire allowed to be ignited, provided the input to that fire cannot be increased until ignition of that low fire is established.

(d) The flame failure shut-off timing is to be based on the burner's maximum rated input. The flame failure shut-off time is that period required by the control to actuate or de-energize the fuel shut-off device after flame extinguishment, except for burner having an hourly input of 1,000,000 Btu or less the timing may be the interval measured from the time the combustion thermostat indicates the flame failure.

porcelain insulators and electrode assemblies of many burner models, through use of only a screwdriver they can decrease greatly the distances listed in the table, and in so doing can make burners unsafe according to UL thinking.

Think twice before you loosen the electrode support on the oil line to the nozzle, and slide the support to locate it closer to or farther from the nozzle! Think twice before you replace a cracked high-tension porcelain insulator with one that's an inch or two shorter than the original insulator!

Some servicemen declare that most the conversion burners they work on do not conform to the last sentence of this requirement on "Leads":

"Ignition cable shall conform to the Standard for Gas Tube Sign and Ignition Cable of the Underwriters' Laboratories, Inc. The cable shall have a voltage classification equal to or greater than the rated secondary voltage of the ignition transformer. Each end of a high-tension lead shall be provided with a fixed loop, eyelet, or connector to facilitate and insure adequate connection to the terminal. A high-tension lead or cable shall be run individually in a manner to avoid sharp bends. It shall be arranged and supported to maintain a spacing of at least ¼" from grounded metal parts."

That last sentence about the ¼" space rules out having high-tension cables in contact with inside walls of gun tubes or in contact with oil lines to nozzles, air-handling parts in gun tubes, etc. Following the above ideas, you can't use the old trick of twisting high-tension cables around each other to reduce radio and TV interference.

Paragraph 282, p. 44 of the book, is important in exempting low-capacity pot-type, wall-flame, and certain other burners from the usual primary-control requirements. This paragraph reads:

"A burner having a firing rate of not more than two gallons-per-hour, which upon ignition or flame failure collects or retains within a metal firepot or receptacle furnished by the manufacturer as part of the burner assembly all of the oil delivered for combustion, may be equipped with an anti-flooding device."

Next comes an extremely important paragraph, which relates to the accompanying table labeled "Safety Control Timing," which is table VIII in the UL book:

"A primary safety control for a burner, except one equipped as permitted in paragraph 282, shall be a safety combustion control having nominal safety timings as indicated in Table VIII. After the trial-for-ignition period, supervision of the main flame only shall begin."

Thousands upon thousands of installations in use today need either replacement of all burners and controls or extensive renovation plus new control systems before they can comply with current UL ideas in the table "Safety Control Timing."

Thus one of the results of the appearance of the new book should be a tremendous wave of oilburner modernization projects, aimed to make all installations 100% safe in terms of the UL thinking which is given in detail in this book.

Many excellent statements can be made regarding this new oilburner book. One of the best is that you can get a copy for-free simply by writing to Underwriters' Laboratories, Inc., at one of the following addresses:

207 E. Ohio St., Chicago 11, Ill.

161 Sixth Ave., New York 13.

1655 Scott Lane, Santa Clara, Calif.

To avoid delay, write to the office closest to you.

Accounting for the Difference

Coan Bros., Natick, Mass., boosts Profits by Modernizing its record Keeping

THE STORY of Coan Bros., Natick, Mass., basically is a story of the growth of an oilheating business in a little less than ten years from practically nothing to nearly 6 million gallons of fueloil delivered to 4,000 customers.

The brothers, Francis M. and P. Joseph Coan, were running a gas station in Natick. Some 15 months after they started business had tripled and they bought their first fueloil truck to start their second business venture. This was in March 1947 and they literally started from scratch, picking up their first fueloil customers through regular patrons at the gas station. In the Fall of 1947 the brothers added oilheating equipment and initially did a lot of builder business as a means of building up gallonage.

Today about half of their equipment sales are made for conversion of coal fired heating systems in the area, with most of their builder business—which still accounts for a sizable portion of their growth each year—confined to assumption of the first year's guarantee on the equipment, supplying fueloil and burner service to the new homeowner. Also, close to half of the Coan brothers oilheating equipment sales are made to replace worn out or obsolete burners. Total annual sales reach 200 burners and units, with the bulk of the installations made with complete boiler or furnace unit. The present 4,000 customers represent an increase of approximately 800 during 1955.

Coan Bros. today handles Delco oilburners and units, the Fluid Heat and General Electric lines, putting them in a position to offer practically any and all of the conventional types of oilheating equipment supplied for domestic use. The firm employs three full-time salesmen, two of whom concentrate on fueloil, the other on equipment sales.

Total annual gallonage delivered now of 6 million gallons, includes about half a million gallons of range oil. A company policy now adds range oil customers only if they also purchase fueloil.

Francis M. *(left) and* **P. Joseph Coan** *check on expanding business with Mrs. Mary E. Coan.*

To this volume of range oil and fueloil should be added about 3½ million gallons of Nos. 5 and 6 oil delivered by Coan to factories and other industrial installations in the neighborhood. The company doesn't handle these sales direct, but keeps one truck for such deliveries on contract.

All these customers are within an area of ten miles around Natick, a town some 20 miles west of Boston. During its ten years of growth, Coan Bros. bought one small company, which added some quarter of a million gallons to their fueloil business. Also, when Boston companies decided to limit their deliveries to the town of Wellesley, immediately east of Natick, the Coan firm absorbed another quarter of a million gallons of business previously sold by a prominent Boston outlet.

Another factor in the company's growth is that the bad weather and uncertain supply during the 1947-48 heating season enabled the Coans to capitalize on their ability to make deliveries during all this time. They were Jenney heating oil dealers then and still are.

As they grew the Coans added about one truck each year, so that today they maintain a total fleet of seven fueloil trucks and six oilburner service trucks. They use two-way radio to advantage, too. The fueloil trucks are contacted this way mostly on run-outs or for "will-call" customers when the trucks are in the neighborhood; the servicemen contact the office after each call, with a consequent improvement in dispatch and control that has permitted an increase of 35% more calls per truck since the system was installed.

The fueloil truck fleet operates from a 100,000 gallon bulk plant the Coans maintain and consists of three 1,600 gallon trucks, 2 carrying truck tanks of 1,250 gallon capacity and two with 2,600 gallon tanks. The firm has standardized on the 2,600 gallon size, one of which recently delivered 13,700 gallons during a ten-hour day. Average daily delivery for all trucks is 7,000 gallons.

As might be imagined from these figures, the fueloil delivery set-up is well organized and supervised. For example, 95% of the customers are on automatic delivery; some 60% are on burner service contracts ($25 with parts, except the tank and combustion chamber; $15 without parts and $21 without parts, but with a vacuum cleaning); better than a quarter of the customers pay on budget accounts.

The company offers 24-hour emergency burner service and fueloil delivery, rotating their seven fueloil truck drivers and seven service truck drivers to equalize the night, Saturday, Sunday and holiday duty this necessitates. And, the Coans report that this 24-hour service has allowed them to add customers when other companies were unable to take care of them.

All in all, the continuing growth experienced has enabled Coan Bros. to lay claim to the title of largest oilheating dealer between Boston and Worcester. This expansion brought with it some problems, too, and the forthright way the company solved one of these

—which, incidentally, directly affected many phases of the total business—makes interesting telling. But, let's listen to P. Joseph Coan as he tells this story:

"As a result of the problems we encountered while growing, we decided that to maintain the standards we had set up, we'd have to apply to every phase of our operations the latest and most efficient methods. First we revamped our system for scheduling deliveries, so that instead of being 'operated out of a hat,' we used a degree-day set-up to remove the guesswork.

"Next we focused attention on our record keeping methods and discovered that our records showed us little about current business activity. We knew our volume was increasing steadily, but we didn't know where we stood in the profit and loss picture.

"We recalled a remark that a New England banker once made, 'A majority of the independent fueloil dealers are simply exchanging an old dollar for a new one. Their business methods are so outdated they cannot possibly make money.'

"We found out exactly what the banker meant when we retained an accounting firm, Gray, Gray and Gray, Boston, to study our procedures. Their report revealed that we were not even gaining our dollar back in the exchange. After completing what we considered was a successful 1953-54 heating season, we discovered we had actually lost money. We were young as a company, but the accounting firm pointed out that our business and bookkeeping methods were ancient.

"Our first step in overcoming this problem was to place all clerical work where it belonged—in the office. Formerly, after making a delivery, drivers figured prices on the delivery ticket. Drivers now turn their tickets into the office and pricing is done there. This has saved us a truck hour a day.

"Next we purchased a Burroughs Sensimatic accounting machine for handling accounts receivable work. Immediately statements, ledgers and journals were turned out so fast that we experienced an astonishing savings in clerical time. One girl with the machine could do as much work as four or five girls with pencils and paper.

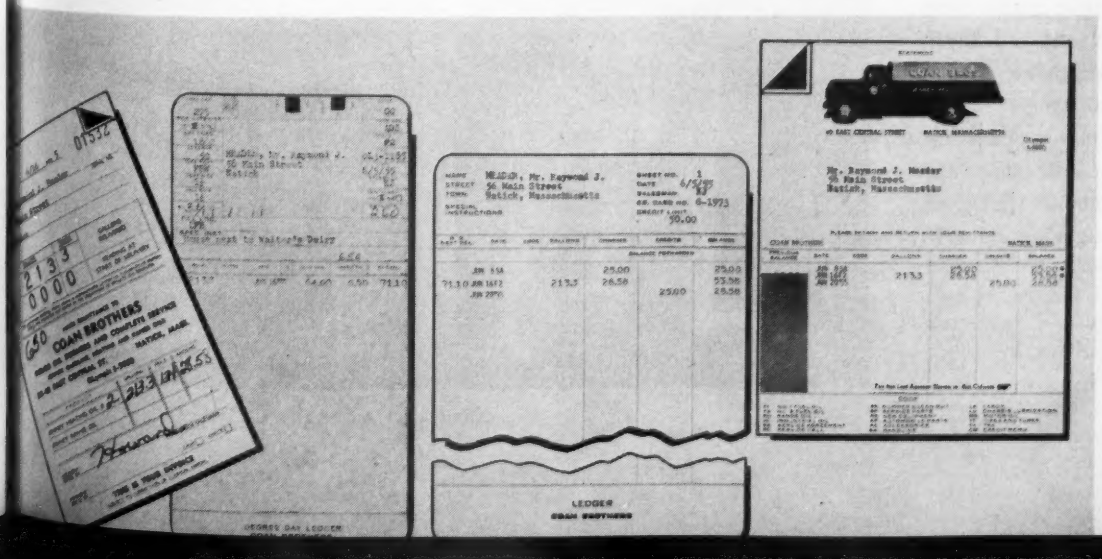
"Meanwhile, we felt that we could still improve our scheduling of deliveries. The job was being done manually and the figuring work was slow and burdensome. In fact, it frequently was so bogged down that our degree day operator could not take good K-checks. Whenever we had a regularly scheduled delivery of less than 210 gallons, we wanted to know the reason—but we failed to gain the answer.

"We experimented with the problem and learned that our accounting machine could post a degree-day ledger, customer's ledger and a statement in one operation. Tests of the operation proved that these records could be prepared far faster and more accurately.

"The success that followed was due to our office employees. They quickly understood the system and did their utmost to improve it. It was September 1954 when we decided to add the degree-day posting to our machine operations. By October 1, our personnel had the new system in full swing.

"Tickets are priced in the office and sent to the operator of one of the two

Denise M. McGrath *and Mrs. Eileen M. Reading (foreground) are shown posting degree-day ledgers, customer ledgers and statements in one operation on Burroughs Sensimatic accounting machines.*



From *the delivery ticket (left), the machine operator posts the degree-day ledger, Coan's ledger and the customer's statement in one operation.*

Coan Brothers' *truck fleet, lined up at the bulk plant, whose loading rack is in the background.*

Sensimatics. The operator inserts the degree-day ledger, the customer's ledger and the statement into the machine. She then indexes the number of gallons in the customer's tank after the delivery and the degree-days of usable oil. These figures are printed on the degree-day ledger. At the same time the machine remembers today's degree-day and calculates and prints the degree-day of the next delivery.

"The machine operator then picks up the previous balance to the account and the charge for the delivery just made. The charge and automatically computed new balance are printed on the ledger and statement. Dates are printed automatically, and one indexing of the delivery ticket number completes both the ledger and statement.

"The forms are removed from the machine—having all been posted within a few seconds. The next degree-day for delivery is copied to the nearest ten days on the face of the original delivery ticket. The ticket is filed by degree-day to schedule the next delivery.

"This method for scheduling has proven so satisfactory that the problem of small deliveries has been eliminated. We are getting bigger 'drops.'

"Meanwhile, the ledger is filed back in the tray. The statement and duplicate of the delivery ticket are mailed immediately to the customer.

"We soon discovered that when customers didn't wait until the end of the month to receive statements they were more prompt in paying their bills. In fact, our accountants estimate that our improved payments picture has saved us from paying interest on between $25,000 and $30,000 that would be necessary to borrow annually during peak heating seasons.

"At the end of a billing run, totals of gallons delivered by routes are used as stock verification, and our receivables are posted and proved on a journal that is furnished as a by-product to posting. These totals help show us a true picture of current activity.

"As payments are received, they are recorded in a cash receipts journal, totaled and deposited in the bank. The accompanying statements, or receipts (if a customer forgets to send in the statement), are sent to one of the accounting machine operators. Payments are credited to customer's ledgers and statements in one operation, with the new balances to each account being printed automatically. The total of payments received is printed on the journal and is checked to balance with the total in the cash receipts journal.

"To facilitate the handling of incoming payments, we purchased a Burroughs Validating machine. This places our remittance records on the same level of efficiency that we have on billing—because it eliminates all manual writing and mental figuring with machine printed figures becoming unalterable records.

"We also purchased a Burroughs Bell & Howell Micro-Twin to microfilm those records that we must retain. These include cancelled checks, statements, ledger cards and other records that normally accumulate until they create a storage problem."

And, concludes Joseph Coan, besides the significant benefits gained, such as bigger "drops," faster payments and lower costs, "We now accomplish more work for less money as witness the 1,217,759 gallons more oil delivered during the 1954-55 heating season than we delivered the year before—without additional trucks or personnel. In short, we feel that we have streamlined our office to operate on the same level of efficiency that we enjoy in our delivery service."

Of course, there are other management personnel in addition to the Coan brothers who contribute to this success. They include: Owen Guertin, manager of all oilburner sales and service; Kenneth Jones, sales manager of fueloil sales; Robert Jones, service manager; Bruck Buckingham, credit manager and Roy MacMillan, weather control operator and dispatcher.

Fluid Heat, *Delco and G-E units displayed in Coan's Central St. office, Natick.*

Home Heating by Zones

No Stranger to commercial Jobs, zone Control catches on for Homes in Minneapolis

by
V. M. Douglas

J. B. WOODBURY was quite interested in the heating man's story that with zone control a homeowner could have different temperature in each of several sections of his home.

He exploded, "I have exactly that right now. I paid good money for what was offered as a first class heating system. They told me that the thermostat would hold the temperature within one degree. It does that all right. The thermometer on the thermostat is always the same as the thermostat setting. Every other part of the house, though, has a different temperature. Sure, I get heat, but it reminds me of the woman who went to the slenderizing salon. She said her weight was exactly right, but the distribution of weight was terrible."

The salesman immediately corrected his statement by saying he could provide any desired temperature in each of several sections of the house—all alike or all different.

A complete discussion of all types of zone control, utilizing various makes of controls, in different climates cannot be submitted at this time. The relative merits of different systems is of little consequence at the moment.

Bob Harris, of the Minneapolis District sales office of Minneapolis-Honeywell Regulator Company and Carl Malm of the same office, volunteered to submit evidence that zone control not only does what they claim, but is gaining an ever wider acceptance by architects, heating contractors, builders and home owners.

They explained that they recommended three basic methods of zone control (with variations) to provide accurate control of any desired temperature in various parts, or zones, of a home. With no attempt at a complete technical discussion, the most commonly used systems consist of volume control, mixed air control and individual zone furnaces. These refer specifically to forced air heating systems.

Modulating Volume Control. Dampers in each of two or more hot air ducts, each leading to a section or zone of the residence, are actuated by a control utilizing a bi-metal element which slowly expands or contracts. The expansion and contraction is brought about by electric current introduced to a heating element near the bi-metal element in the control. The current circuit is made or broken by a thermostat located in the portion of the house, or zone, which is supplied with hot air from the duct being controlled. The heat controlled rotation of the damper shaft, provides a floating movement of the damper. This prevents sudden changes in the volume of air, and maintaining close control of the temperature supplied by each duct to each zone.

Modulating Mixed Air. This is frequently called the face and by-pass system. As the name implies each zone is supplied with hot and cold air to provide a varying temperature of air, at a constant volume to provide the desired temperature. The thermostat, any of several types, is the same as is used in the volume control system. Also the damper control is the same. The difference lies in the method of controlling the temperature of the mixed air rather than controlling the volume of hot air at a constant temperature.

In this case part of the air returned to the furnace through cold air ducts is passed over the heated surfaces of the furnace. That is the "face" part of the system. The other portion of the returned cold air is by-passed, without going over the "face" (surface being heated) of the furnace. Two dampers, one in the duct conveying the heated air, and the other in the duct for by-passed air, have their control arms connected. The damper control with heat actuated bi-metal element controls the two dampers simultaneously, giving a delivery of mixed hot and cold air in correct proportion to provide the temperature in any specific zone in accordance with the thermostat demand.

Carl Malm, *from Honeywell's Minneapolis district office, discusses a zone control installation with Stanley Snyder, production manager, Waterburn Co., Minneapolis, Minn.*

Individual Zone Furnaces. Having a separate furnace for each zone controlled by a thermostat in each respective zone will, of course, provide accurate zone control. This method is recommended only in exceptional cases, because of the cost of duplication of equipment.

At one time the self starter on an automobile was considered strictly a luxury, which provided no additional power, speed, riding comfort, dependability or comfort. Zone control is passing through the same stage, except that some think it offers more advantages over a single thermostat automatic heating system, than the self starter did over the hand cranked automobile.

For several years the homeowner, or prospective homeowner, has had an opportunity to enjoy the comfort and have an assurance of better health with any of several types of zone control. The question arises, "Why doesn't everyone insist upon zone control?,"

or, "Why isn't zone control taken for granted the same as other good and necessary parts of the modern home?"

Stanley Snyder, production manager of the Waterbury Company, Minneapolis, speaks for himself as well as for the General Manager George Sedgwick. He says there is no excuse for anyone to endure the several disadvantages of a heating system controlled by a single thermostat. He should know, for the Waterbury Company is definitely a leader, perhaps the largest installer of zone control in the country and that means in the world.

Yet, at the present time the installation of heating systems with zone control constitutes only a fraction of all heating systems installed by this aggressive company.

With approximately 300 zone systems installed during the past year, added to hundreds in previous years, Snyder should know what he is talking about.

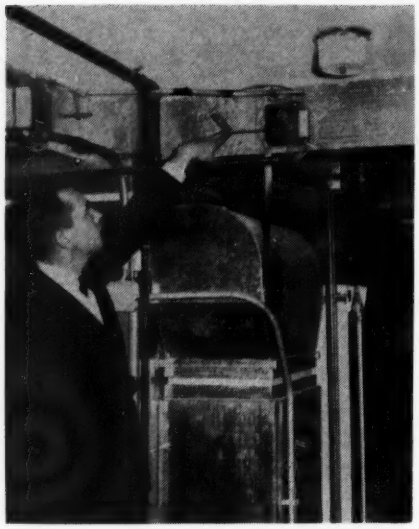
Price Considerations

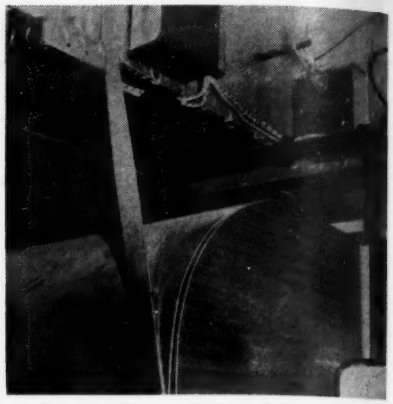
The ever present item of price is a factor which must be considered. Again quoting Snyder, he claims, "We seldom have any difficulty in selling a face and by-pass heating system—this is their specialty—to any owner who is building a home costing $15,000 or more. Of course, the larger the home the more important zone control becomes. A forced air heating system complete with zone control can be installed in a moderate priced home for about $750."

To break it down still further, he says there is a legitimate profit for the installer if $250 is added to a conventional forced air system for the first control and $100 for each additional zone control. These prices are not a quotation, but are approximate competitive figures used by well equipped heating firms in the Mineapolis area.

It is to be expected that someone will ask, "What happens after the first cost—how about the upkeep?" Again Snyder has an answer based on actual experience.

"On the first 100 installations, our records show that we had two complaints. Two owners were not satisfied. Their complaints were investigated and found justified. We had depended upon good mechanics to make good installations. We have learned that it pays, both financially and in building good will to have an expert—no let's not use that overworked title—a thoroughly experienced engineer check the initial installation, mechanically, electrically and functionally. With everything properly adjusted, zone control is practically trouble free, which means service free."





Malm *examines a Waterbury Face and By-pass damper installation, which is shown in more detail in the view at the right.*

There are many possibilities that zone control will repay its initial cost by savings effected, and the owner will have all the advantages gratis. For instance, if and when it becomes desirable to sell a home, the rapidly increasing recognition of zone control not only makes the home more salable, but at a higher price than a similar home lacking this feature. To resort to extremes, to illustrate the point; just as a home equipped with a modern automatic oilburning system is more salable and at a higher price than one heated by hand-fired coal, so an automatic system with zone control is worth more and commands a higher price than one with a conventional single thermostat system.

Again, consider a popular ranch or rambler type home, spread over a large area on one floor. The bedrooms are in one wing. The thermostat is located in the living room on the shady and wind exposed side of the house. The thermostat is set at 72°. Remember, cost is being discussed. The thermostat being located in the naturally cold living room keeps heat pouring into the bedroom wing, normally not in use during the day, until the temperature may climb above 80°. If the flow of air is reduced by dampers or registers, the rooms would be cold at retiring time.

So, the unnecessary and unwanted heat pours into these rooms day after day, winter after winter, and the radiation of this excessive heat is a matter of cold dollars and cents. With zone control the bedroom area may be kept at any temperature day or night, regardless of the living room temperature. A reduced temperature, with reduced radiation of heat, means reduced fuel requirements, which pays for zone control.

Another factor in many homes which must be considered, is the personal element. A variation of heat is required to keep different members of the household comfortable. You may think this is a jump from cost to comfort. It is both. Grandma, left alone, wants to live in the daughter's home. She is welcome. But, Grandma is not very robust, or like many oldsters, her blood is thin. Whatever the cause, she is miserable if the temperature drops below 80°. The remainder of the family suffocate in a room temperature if it gets above 75°.

The answer to the whole problem is zone control. With one heating system, Grandma can have just the degree of heat she enjoys and others in the family can enjoy their normal mode of living. Cost? Think what it would cost to keep an entire house at 80° or more, or to provide Grandma with separate living quarters.

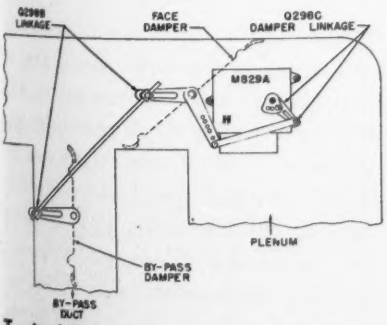
The modern home is one of many activities. The recreation or rumpus

room is frequently considered "closed for the winter" because it presents such a heating problem. Even if heat is introduced to the recreation room, it is next to impossible to control the heat if the thermostat is located in another part of the house. This room may require a temporary temperature of 55° or 60° while a game of table tennis is in progress. A short time later a room temperature of 70° may be desired while watching a TV program.

It is inconceivable that anyone would attempt to maintain a variety of temperatures in various portions of a home by manual manipulation of registers or valves. Even if one person should devote his entire time checking thermometers and adjusting registers he could not do as good a job as zone control.

Snyder is a production man, but he knows where and how the Waterman Comfortrol face and by-pass heating systems are sold. Some go to home builders. A Mr. Shaffer is so sold on the advantages of zone control that it has become a standard practice in all the houses he builds. He finds this to be one of the most effective sales features.

In some instances, architects welcome the opportunity to provide their clients with the ultimate in comfort, health and home enjoyment. Zone control is specified. There are still cases where eye-appeal commands a priority over the latest in heating methods. These are the jobs which the heating man must sell by direct contact with the homeowner, to keep him from having a new out-of-date home. The zone controlled job which does not require sales effort is the exception rather than the rule. A one time user of a satisfactory zone control installation requires no further selling. His friends



Typical *Face and By-pass arrangement.*

and acquaintances are the best prospects. Every user is a booster, if questioned. However, zone control is such an out-of-sight, inaudible experience that it easily becomes taken for granted.

Fred Vogt & Company, a firm of heating engineers located at St. Louis Park, Minnesota, are equally enthusiastic over zone control. They do not emphasize face and by-pass as strongly as Waterbury, but they operate under the banner "Personalized Heating and Air Conditioning." Fred Vogt is thoroughly sold on zone control. He is willing to install high grade multiple zone control jobs for less than a normal profit, just to get the ball rolling. He considers every zone controlled job an asset to the heating industry. Within a short time, he thinks the influence of well engineered jobs will be responsible for more zone control work than he and other well qualified heating men can handle.

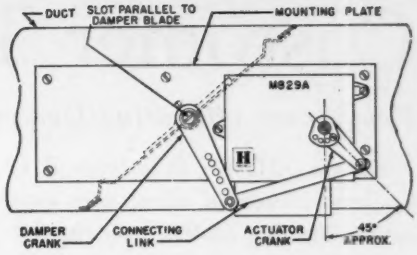
Education is needed

Vogt says, "All we need is education. Homeowners and builders need to know the great advantages. Heating men need to have the know-how to design and install good jobs."

Vogt is enthusiastic over the possibilities of providing accurately controlled heat at remote points which cannot be controlled by a centrally-located thermostat. He was recently presented with a problem which consisted of heating an added bedroom located over a detached garage. Because of these circumstances the bedroom was exposed on six sides. It could not possibly be provided with controlled heat with a thermostat located in any portion of the house other than in the bedroom, and that, obviously, would serve no useful purpose in determining the amount of heat furnished to the rest of the house.

A separate heating system or zone control would be the only possible solution. Zone control combined with a special method of conducting heat under the floor proved the answer from the standpoint of low initial cost, low heating cost and a satisfied customer.

Another point brought out by Vogt was that zone control can be installed at any time. This provides work during a time which would otherwise be



Typical *volume damper installation.*

a slack season. Zone controls, including thermostats (inside and outside), damper motors, and dampers as well as changes in ducts may be installed without depriving a home of heat during cold weather.

Alan Malley of the Vogt organization, proudly displayed a four zone heating and air-conditioning system designed for and installed in the home of a Minneapolis executive. The zoning was scientifically planned with volume type zoning control to provide a uniform temperature in accordance with living requirements, in four different sections on three different levels of this very modern home. The zoning took into consideration the varied uses and other heating influences such as three fireplaces, which render a single thermostat useless.

Both Vogt and Malley emphasized the idea that many homeowners, with a fine home, having a heating system with a good boiler or furnace, and a good burner cannot hope to have adequate heating with a single thermostat. They feel that every progressive heating contractor should dedicate himself to advancing zone control.

This may not be the final answer, but as of now it does answer those questions raised when this discussion was started. Zone control is doing a first class job. It is practical. It actually maintains the desired temperature in any of the zones controlled. People will and are buying it. Heating contractors are selling zone control, not only because it gives them satisfied customers, but because it affords an additional source of profit, and gives work during a slack season. It is not a luxury in the sense that the cost is beyond the reach of most homeowners, but it does afford luxury living equal to any, at any cost.

All that stands between general acceptance is time and education.

Customer Turnover

Providence oilheating Dealer analyzes Reasons why Homeowners change fueloil Suppliers

Lamson Oil Corp., Providence, R. I., has been concerned, along with most other oilheating dealers, over the fact that each year there is a considerable turnover in their fueloil accounts. Rather than just worry about it, Lamson for the past few years kept track of their lost customers and found out why they had switched to other marketers.

The following represents an informal report prepared by James E. Leary, vice-president and sales manager of Lamson, released through the co-operation of Reid Westmoreland, Lamson's president, wherein the reasons for customer loss are tabulated and then analyzed. It should prove interesting reading for nearly every heating oil dealer.

WE'VE BEEN CONCERNED for some years about the turnover problem which we have in our fueloil customer list annually. In checking with competition our rate of accounts lost per year is much higher than they state theirs to be. We are of the opinion, frankly, that some of them don't know what their actual turnover is.

Servicing a reasonably large number of retail accounts as we do, we decided a few years ago to keep accurate records of each lost account, along with the reason given for the loss by the customer.

We have 105 accounts per thousand who buy oil on contract, but have no all-inclusive service or vacuum cleaning.

We have 33 accounts in every thousand who contract for oil and a vacuum cleaning, at a cost of $10 per year, plus charge for parts and labor on any emergency service calls they have.

We have 862 accounts in every thousand who contract for our All-Inclusive Fueloil and Service.

The accompanying table shows our customer losses per thousand accounts from the start of our 1955 contract renewal solicitation to mid-January 1956, and the reasons obtained from these lost customers.

During this same period we were able to secure the new tenants at houses where we previously had contracts at the rate of 15 per thousand. Or, to put it another way, when a customer moved away we were able to sign up only 35% of the incoming tenants.

Roughly, we have an annual turnover of 95 accounts per thousand.

In this same period, our group of salesmen (salaried) brought in 121 new accounts per thousand old customers. In our case this indicates how important it is to get new business, but it also shows how expensive it is in sales cost simply to hold volume once you obtain a substantial number of accounts.

Analyzing Losses

In analyzing these figures we consider these things.

1. Being located in a metropolitan area we feel that our loss through removals is higher than it would be in a rural area or in a section of the country where population is static. We feel this loss is out of our control. We are constantly searching for a better way of securing the incoming tenants. We are trying through prompt notification from our degree day department to catch removals when customers stop buying. This gives us the chance, during the heating season, to follow up removals closely, but the customer using small gallonage who fills in April or May and moves before our degree day plan is working in October can be "long gone" before we wake up.

2. Again analyzing our losses the reasons given by the former customer may not always be his real reason. For example, our credit loss on accounts of 16 per thousand may be actually higher because few customers are willing to admit that they are "poor pay."

3. Service complaint losses look small but I believe they are accurate for two reasons.

We try to give the best possible service.

Our All-Inclusive policy eliminates complaints about charges for parts and labor which are customer irritants. Most service complaints originate with the customer who has no service contract. A customer who won't buy a service contract will call for emergency service at night or on Sunday. When he gets a bill for $3.00 he tells us that the man was only there for five minutes. The fact that our actual call may take an hour and one quarter and cost us close to $4.00 is of no interest to him. He wants the entire charge written off.

4. Our price complaints of one per thousand looks low, but we think it accurate, due to our selling policy. We have no discounts for large capacity tanks and have few large gallonage accounts, such as commercial buildings, apartments and factories. Thus, thorough concentration on the average householder has given us the advantage of avoiding severe price cutting competition sometimes found among the high gallonage accounts.

5. We have lost no customers we know of this year because of delivery complaints. We think the reasons are because we have pushed degree day so hard and because we keep all fueloil drivers on the payroll all year, with the exception of two spares. Spills are reported promptly, are few in number and are adjusted promptly.

6. The loss to relatives and friends we believe is uncontrollable.

Reason for Cancellation and/or not renewing	*Number in every Thousand*
1. Credit Problems	16 per thousand
2. Service Complaints	3 per thousand
3. Delivery Complaints	0 per thousand
4. Price Complaints	1 per thousand
5. Switched to Relative-Personal Friend	10 per thousand
6. Moved	63 per thousand
7. Reasons Unknown	31 per thousand

(*Please turn to page 158*)

ALL-INCLUSIVE FUEL OIL AND SERVICE CONTRACT

LAMSON OIL CORPORATION

355 ALLENS AVENUE — PROVIDENCE 5, R. I.

HOpkins 1-5500

PRICE PROTECTION FEATURE

Lamson Oil Corporation hereby offers to furnish your entire requirements of LAMSON FUEL OIL AND SERVICE UNTIL MAY 31, 1956, the price of oil to be Lamson's prevailing tank wagon price at the time and place of delivery.

TERMS

Fuel Oil: Payment due 10th of month following date of delivery, subject to approval of Seller's Credit Department.

All-Inclusive Service: Payment due August 10, 1955, or 10th of month following date of signing of contract, whichever is later.

TEMPTROL DELIVERY FEATURE

No extra charge is made for Temptrol Delivery Service. It is understood and agreed by the Buyer, in requesting and accepting Temptrol Service, that Lamson shall have the right to keep the Buyer's storage tank supplied at all times and to make deliveries in such quantities at the time the truck calls as is necessary to accomplish this. All deliveries are made with officially sealed meters. It is mutually agreed that fractions of a gallon will be computed to the nearest full gallon.

If, for any reason, you do not want Temptrol Delivery, Check here ☐

ALL-INCLUSIVE SERVICE FEATURE

Upon the mutual acceptance of this All-Inclusive Service Feature, Lamson becomes obligated to repair, or replace any oil burner parts which, in its opinion, are defective and to provide 24-hour burner service until May 31, 1956, at no additional expense to Buyer. A complete list of the parts which will be so replaced is printed on the back of this contract. It is agreed that Lamson will not be required to repair or replace parts damaged by fire, explosion, acts of God or other causes beyond the control of Lamson, the mutual intent being to repair or replace the parts listed on the back of this contract which have become defective through age or normal wear, and which were installed on the listed burner before this contract was signed. Lamson also agrees at the earliest convenient date to test the oil burner described below with precision instruments and to adjust the burner to its maximum efficiency; to oil all oil cups, clean nozzle and strainers and vacuum clean boiler smoke passages. For this complete service, including parts, the Buyer agrees to pay $20.00.

GENERAL PROVISIONS

It is agreed that if any tax or other charges are imposed by any governmental authority with respect to the sale, delivery or use of the product covered hereby, it will be added to the price to be paid by the Buyer. This contract is assignable by Lamson. Lamson is not to be held responsible for damage or loss resulting from failure to make deliveries, to perform service, or to furnish parts when such failure is due to conditions beyond its control.

Accepted:

LAMSON OIL CORPORATION

_____ BY _____

Salesman *Sales Manager*

RENEWAL AGREEMENT

To LAMSON OIL CORPORATION:

I want my All-Inclusive Fuel Oil and Service Contract to be renewed each year by Lamson on its expiration date, which is May 31 of each succeeding year from this date.

It is agreed that Lamson will notify me annually as to its willingness to renew, at least 30 days before each May 31.

It is agreed that Lamson will not raise the price of its service or decrease the benefits offered in any renewal year without written acceptance by me and that I will automatically receive any reduction in the price of Lamson Service which may be made in future years.

It is further understood that I may cancel this renewal at anytime for any reason simply by notifying Lamson, in writing, of my intention to cancel and by paying any charges due to the date of my cancellation.

....

(Date) (Signature)

Profits in Cooling

Some Theory and practical Considerations for estimating cooling Loads

by
J. R. Lewis

THERE ARE MANY REASONS why the aggressive oilheating dealer has become interested in "residential" airconditioning installations, and is hopeful about new profit possibilities.

One of the reasons that is not apparent is highlighted by manufacturers' records on how the heating-cooling combination type units are being used. Last year, for example, one manufacturer found that about 20% of total sales were commercial installations, including stores, restaurants and banks. This year the figures indicate that the ratio will increase to perhaps 30%, and the trend seems to be about 15% for offices and 15% for retail stores.

A further interesting fact is that up to 80% of the 5 ton cooling capacity size are being installed in commercial establishments. It is on jobs of this type that quality can be made to return a fair profit, and a good performing system can lead to other closed bid installations.

The time and the place to start planning for a quality job is at the estimator's desk where the equipment requirements are going to be established. Therefore the discussion that follows will explain some of the fundamentals of estimating procedures.

It first must be recognized that many of the variables pertaining to load calculations are difficult to define or to evaluate in a precise manner. Most of the components will change a lot in any 12 hour period, and it is very unusual if the increases and the decreases are sufficiently in balance so that the total load at a given time remains nearly the same as it was several hours before.

Then too, the modern insulated type structure has a relatively high degree of storage effect for avoiding a rapid temperature change as the heat load is changing. Because of storage effects it may be hours before a heat load increase is reflected in a noticeable temperature increase. By that time the (total) heat load could very well have decreased a noticeable amount.

The theory and practical limits to be discussed here will show the individual considerations which must be combined into a total heat cooling load estimate. However, there usually is an appreciable difference between the net heat gain rate and the cooling load at any given instant. The estimating form which is being used to tabulate and summarize instantaneous heat load components must compensate to bring the total heat gain calculation to a net heat gain rate, which in turn is a realistic evaluation of the cooling load.

Summer load calculations are entirely dependent upon:

1. Design Conditions: (a) Inside, (b) Outside.
2. Infiltration or Ventilation.
3. Instantaneous Heat Load, both sensible and latent: (a) Solar radiation, (b) Outside to Inside temperature differential for walls, ceiling, roof, glass (modified by time lag factors dependent upon light, medium or heavy construction).
4. Partition and floor losses.
5. Energy to heat (appliances, etc.).
6. People at rest or active.
7. Miscellaneous considerations.

Design Conditions

Indoor conditions for health and comfort have been and continue to be the subject of research and discussion. There cannot be one standard set of temperature and humidity conditions without regard for

(1) Indoor-outdoor differential in different climates;

(2) Length of time people remain in the conditioned space; and

(3) Type of clothing and other localized customs which vary from place to place.

The standards being established by the industry must be considered normal average, and not necessarily the objective without regard for the conditions mentioned which can and should have a bearing on the ultimate result.

Outdoor conditions of dry bulb and wet bulb for the cooling load estimate are generally taken as the highest temperature which has been equalled or exceeded for as much as 2½% of the time during the cooling season, with corresponding wet bulb for the selected dry bulb condition. The figures for all sections of the country are available from equipment manufacturers' tables, *The Guide*, Weather Bureau and other sources. Many estimating forms help to account for storage effect by modifying the maximum readings to account for the average daily range of temperature in a given climate.

The daily range is the difference between the average of daily maximum temperatures and the average of daily minimum temperatures. The range is highest in arid regions or at high elevations where 30° or more may be expected. It is lowest at the coastal areas or near very large bodies of water where as little as 15° may be common.

Should the estimate be used to select a cooling tower or evaporative type condenser then it is important to not use the thus established wet bulb condition for this particular piece of equipment. This is because the average maximum wet bulb condition does not occur concurrent with average maximum dry bulb readings. However, this type of condenser must meet cooling load requirements at extreme wet bulb outdoor readings.

Returning to values for indoor conditions under the average maximum outdoor readings, *The Guide* has published the *Table 1* shown opposite. These figures may be exceeded during conditions of extreme outdoor weather. Furthermore the customary practice is to operate systems at as much as 4° lower temperature during normal weather conditions.

Any commercial structure or residence must have infiltration which is

caused by wind velocities or prevented by an equal or a greater ventilation rate that is created mechanically. For commercial work, usually involving spaces which accommodate large numbers of people, local codes and building ordinances frequently specify the minimum ventilation requirements. Such figures must also account for the greater need in the event that a few or many occupants may be smoking. As an indication of the effect this has on requirements note the following figures:

People

(1) Not smoking— 5 cfm Minimum
(2) Not smoking—7.5 cfm Recommended
(3) Smoking — 25 cfm Minimum
(4) Smoking — 40 cfm Recommended

For the average residential application it is customary to assume that infiltration, which will be at least one complete volume of air change hourly, will provide sufficient ventilation for the average number of occupants. This same rate of infiltration could never be anticipated as adequate ventilation for spaces which are to be occupied by large numbers of people. The estimating form for commercial work therefore shows how to establish minimum ventilation needs based upon the expected number of people and the expected percentage of smokers. It then uses this figure expressed as cfm in the following formulas:

(1) Sensible Load in Btu/hr equals cfm $\times$ 1.08 $\times$ $(t_o - t_i)^x$
(2) Latent Load in Btu/hr equals cfm $\times$ 4840 $(W_o - W_i)^y$
(3) Total Load equals sum of above.
(^{x}) t_o = outdoor design temperature
t_i = indoor design temperature
(^{y}) W_o = moisture ratio outdoor air in pounds per pound of dry air
W_i = moisture ratio indoor air in pounds per pound of dry air

As an illustration of the method and an indication of the magnitude of these figures, assume the following design conditions to be the requirements:

(A) Outside 95° Dry 74° Wet Resulting in W_o Being 0.0141 on Psy. Chart
(B) Inside 80° Dry 67° Wet Resulting in W_i Being 0.0112 on Psy. Chart
(C) Ventilation for 20 People Requires 250 cfm Solution:

$q_s = 250 \times 1.08 \times (95° - 80°)$ 4050
$q_L = 250 \times 4840 \times (0.0141 - 0.0112)$ 3510
q_T Btu/hr 7560

One important reason for making a detail calculation of the cooling load is to establish the temperature and quantity of air that should be circulated to remove the existing heat load from different rooms. Infiltration automatically becomes a room load, while ventilating air taken through the conditioning equipment is restricted to the cooling plant except for the relatively small quantity which escapes from the cooling coil because of by-pass inefficiency. This inefficiency increases as the number of coil rows (in direction of air flow) is reduced. Manufacturers' selection tables for cooling coil sections should therefore indicate amount of by-pass effect for each size or style.

Instantaneous heat Load

The heat load calculation usually separates sensible heat and latent heat components. As previously mentioned, the former is heat created by conduction, convection and radiation to cause a temperature change, while the latter is a heat content change created when water vapor content is altered.

Solar radiation, particularly on glass and on roof, usually is a large part of the sensible heat load. Accordingly, for residential construction which anticipates summer cooling, the architectural design should include roof projections, orientation and other considerations to help reduce the burden that can be caused by exposure to the rays of the sun.

To compute scientifically the load imposed by the sun can be extremely complicated. For accuracy, the smoke or dust condition of the atmosphere, the latitude, and the angle at which the sun's rays will strike a given barrier will affect the magnitude. Fortunately the required accuracy for average estimates no longer requires more than a factor which is selected from a table. Using this factor will compensate for the independent variables which have a bearing on the amount of solar heat radiated.

There are several methods. One of these uses tables to establish the equivalent temperature differential for a known set of conditions (sun time, construction, direction of exposure). Then, as with other estimating forms, the heat load is the product of U (coefficient of transmission for type of temperature construction) and the amount of area involved, and the equivalent temperature factor. The result of this calculation is heat gain through normal convection plus conduction plus radiation.

Most estimate forms treat glass areas as a separate item since there is an appreciable difference between loads through walls, single glass, or twin glass of equal area. Furthermore, the high radiation factor for sun exposed glass may be greatly reduced by total or partial shading. Therefore, it is important that the estimator know exact building conditions on all of these points if his solution is expected to be accurate.

Although this component is seldom an important factor in residential work it can be noticeable on a commercial application. All inside walls, ceilings and floors which have conditioning on one side must be investigated. The procedure is first to establish areas and the expected temperature difference between indoor design dry bulb and the maximum expected temperature at the time when other room loads will be greatest. The U coefficient for type of construction involved can be found in heat transfer tables. Then the product of U, temperature difference and area will establish this portion of the load.

TABLE I

Typical comfort commercial design room Conditions for average peak load Summer Weather

Type Installation	*Temperature* D.B.	W.B.	*R.H.* %	*Grains* Per Lb.[1]	*Effective* Temp.[2]
Deluxe Application	78	65	50	73	72
Normal Application	80	67	51	79	74
15 to 40 min. Occupancy	82	68	49	80	75

[1] Moisture content expressed as grains per pound of dry air and obtained from psychromatic table.
[2] Discussed in Part 3 of this series (May issue).
Source: *The Guide*, published by American Society of Heating and Airconditioning Engineers.

When no contradictory information is available, it is common practice to use 5° less temperature difference than the outdoor minus indoor figure established for the design. For example, on 95°-80° design, the temperature difference for partitions, floors and ceilings may be assumed to be 10°. The only exception to this is for floors over the ground or over an unheated underground basement. In this case the transfer is usually neglected.

Anything within the conditioned space which consumes power for energy will impose a heat load in proportion to the power consumed. An appliance of any sort, whether gas or electric or steam, motors, and lighting are the important considerations. Naturally it is proper to eliminate any that can be expected to be idle when other cooling loads are extreme. Here again the commercial application is most apt to require more attention on these details.

Appliances which are vented may be considered to dissipate only 50% of their total heat consumption. The normal computation for electric appliances is:

$$q = \text{Wattage} \times \text{Use Factor} \times 3.41 \text{ Btu/hr}$$

The use factor takes consideration of hoods mentioned above and period of usage during peak load conditions.

Motor heat loads generally are computed:

$$q = \frac{\text{Motor H.P.}}{\text{Efficiency}} \times \text{Use Factor} \times 2544 \text{ Btu/hr}$$

Motor efficiencies are generally 50% to 60% for ⅛ hp increasing to 80% at 1 hp and as high as 90% for 10 hp and larger.

Lighting loads are usually calculated:

$$q = \text{Wattage} \times \text{Use Factor} \times 3.41 \text{ Btu/hr}$$

Wattage must naturally include all lights within the enclosure at the time of other maximum heat loads. The use factor includes several variables in addition to the time of use consideration. For example, some fixtures may be recessed to dissipate heat to outside space and some fixtures may be ventilated. The fixture manufacturer may have to be consulted, provided that this part of the total load appears to be substantial.

Latent heat loads are a result of water evaporation from cooking, gas burners or steam tables. When a known latent heat load is not available it may be estimated as about 1000 Btu/hr for each pound of water evaporated into the conditioned space, or about 50% of this for hooded and ventilated appliances.

Sensible heat loads from people caused by heat generated by the body and latent heat to evaporate moisture from the body will vary a lot depending upon age, sex and amount of activity. For residential estimates a normal at rest condition can be assumed. For various classes of commercial work the cooling equipment manufacturers publish tables to indicate an average sensible and latent figure which is to be multiplied by the average number of occupants expected when the total load will be the greatest.

Here are examples of some of the figures which are commonly used for this part of the load calculation:

People (Btu/hr)	*SH*	*LH*	*TH*
Seated at rest	180	150	330
Seated office work	195	155	350
Walking retail store	200	250	450
Active (Dancing)	245	605	850

Such things as vapor penetration through the walls and heat transferred from uncovered steam pipes or warm ducts are neglected in residential work because they are insignificant. However, on commercial estimates they may be appreciable. At best the accurate value is very difficult to calculate, and usually when this type of load is anticipated it is good practice to allow as little as 2% or as much as 5% safety factor in the final summary.

Regardless of how well informed and how accurate the estimator may be, the success of his work will be dependent upon evaluating how best to combine the independent factors which he has selected to be a part of the total.

While it would seem that many of the former residential estimates were conservative to an unnecessary degree, it may be that any drastic cooling equipment reduction may not prove to be completely successful.

Regardless of method used to establish the average maximum hourly cooling load, the figures are used to select the compressor and condenser combination of equal capacity for the expected maximum condensing condition and the operating suction temperature. The equipment rating tables normally indicate the suction temperature and the apparatus dew point relationship. The adp by definition is the temperature at which condensation will first begin to occur if the air were to have its temperature lowered. It, therefore, is a measure of the moisture content of the air, and an indication of both the sensible and the latent cooling potential.

Cooling coil selection tables also consider a "by-pass" factor to allow for a quantity of air which does not come into contact with the cooling surface. Coils with four rows in the air flow direction may be expected to have a factor of 0.8 magnitude while the more costly six row coil has a higher factor that is close to 0.95.

The equation that is used to establish room air quantities that are required is:

$$\text{Cfm} = \frac{\text{Room sensible heat load in Btu/hr}}{1.08\ (\text{Rm. Temp.} - \text{App. Dew Pt.}) \times \text{By-pass Factor}}$$

Experience will prove that it is important also to keep enough air supply so as to avoid having too much temperature difference between the room and the supply air temperature. Usually a figure of 20° is the most that can be considered, and a 15° condition is generally the most satisfactory. Test check may be made by substituting in this equation:

$$\text{Temp. Supply} = \text{Temp. Room} - \frac{\text{Room sens. heat load}}{1.08 \times \text{cfm room air}}$$

Note that when the air quantities can be increased it is possible to bring the supply air temperature high enough to be in line with operating conditions that will protect against the possibility of cold draft complaints.

Cooling equipment estimating forms for residential work are far more simplified now than they were only a few years ago. There is still the experience or judgment factor that will give a different answer for the same problem solved by two estimators, but the risk assumed by the dealer is not as great as it has been.

Oilheating Roundup - Third Part

This time the Group discusses Central Service, Sun-Wind Effect, Consumer Movie, Profit

In this concluding installment, the five key oilheating men explore with the editors further impressions on industry happenings in recent months.

The group included Jim Carson, Fluid Heat Div., and Tom Carson, Sherwood Bros., both Baltimore, George Clement, CFM Terminals, Philadelphia, Tom Scott, Buckley & Scott, Watertown, Mass., H. M. Spade, E. Robison, Inc., Hartsdale, N. Y., and from the magazine Bert Dunphy, managing editor and Robert Gray, editor.

The topics to be considered were found by thumbing through issues of the magazine and noting principally the headlines.

THIS PORTION OF the discussion opens with a look at central service companies.

Gray: In quite a few markets around the country fueloil men have been identified more with gasoline and other oil products than they have with oilheating. In these spots they often have ignored burner service, but today, with more heating men inclined toward gas heating, they recognize that they need to offer burner service to keep their oil accounts satisfied at a reasonable cost. What do you think of a group of fueloil distributors setting up a central service organization to look after the customers of several companies?

Tom Carson: As far as we are concerned I am unalterably opposed to it. There is a very intimate customer relationship that you are trying to sustain and your service arm is one of your best methods of retention.

Spade: It is practically the only one you have now.

Tom Carson: And especially when you are in a buzzard market where you are all feeding on each other. The question of superiority of service is paramount today, more so than ever before.

Scott: On top of that the quality of the service in the industry as a whole is going to suffer the minute it is tried for the simple reason that a socialist economy won't work. If you are talking about a centrally-owned service organization, Smithtown is a good example. (*Editor's note—Tom actually mentioned another city fairly near to Boston but we're calling it Smithtown to avoid arguments.*)

In that area 10 companies set up a corporation among themselves to render service. The quality of service immediately dropped because the manager of the service organization is like a commissar in a Soviet economy. He gets a weekly salary and if he loses $20,000 a year or $120,000 a year he still gets the same salary.

Six of these ten fueloil companies had been showing combined losses of around $12,000 on their own service departments. This six-company group had to divide a loss of $27,000 the first year under the central set-up and they provided lower quality service.

The individual fueloil man is trying to do two things . . . retain his customers as Tom put it, and to operate as efficiently as possible to hold down losses. These are the incentives to good quality service at the lowest price to the customer.

Clement: There is another way it can be done and that is for a service company to start its own business. That is just as bad, because that chap is interested only in making money. They decide what they are going to sell to the customer as they walk through the living room on their way to the basement.

Scott: He couldn't help but try to sell, and at prices that would support his organization at a profit.

Gray: Have you encountered that, Jim?

Jim Carson: Not as you discuss it, but we have found a number of companies who like to duck it, and in almost every case they suffer by it.

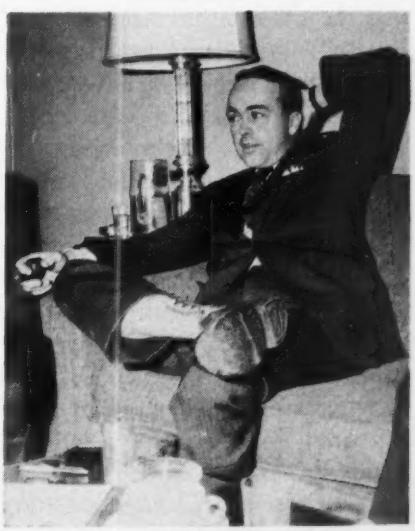
Gray: To carry that a step further, is it reasonable to expect that a fueloil distributor can operate a service department without loss if he charges to that department only direct costs and direct overhead . . . in other words, no topside administrative overhead?

Spade: I would say it is possible.

Clement: I think if you analyzed most of the outfits they would break even at that point. We never made any real money on service.

Tom Carson: We had a free service market some years ago and never got the public worked up to a profitable scale of service costs. The customers have had fine service at what may amount to as much as a half cent a gallon subsidy from the oil. We don't

Spade . . . *"Our service contract covers 87% of our accounts—that means I've stopped all argument with 87% of my customers."*



Scott . . . *"The dealers in our area who have had active promotion programs have had increases in sales this year."*

Tom Carson . . . *"Your service arm is one of your best methods of holding customers."*

necessarily subscribe to that philosophy, but that is the market. We get $19.50 for a yearly contract including parts and tank replacement.

Scott: We get $29.50 for that service.

Tom Carson: The other phase of it is the gas utility with free service. We always have to bear that in mind.

The gas company gives no free parts but does provide free adjustment service. We provide a summer overhaul; the gas utility doesn't.

Gray: In the Midwest are a number of fueloil distributors with service departments who will also service gas equipment, principally to keep the men active and a strong department.

Apart from the emergency service that the gas companies provide free, these oil service departments have average billings of eight to ten dollars a year on the gas burner accounts.

To move on to another topic, I notice the story about Lee Johnson out in Kalamazoo and his development of an instrument that will compensate for sun and wind effect in degree-day operation. The idea isn't new but adapting it in a practical way to fuel-oil delivery is new. Do you feel it could be important? Will it save money?

Spade: We have two of these instruments.

Tom Carson: We bought several of them and used one for a season, checking it against our own calculations. I would say for normal use you have a good instrument.

Spade: We kept our own records on it. We have been using it for a couple of years and we compared it at the end of a year, Johnson's meter against conventional degree-day methods, and there wasn't much difference.

Tom Carson: That was exactly the way with us. I bought it for two of our branches. I did it because I knew they wouldn't otherwise make the calculations.

Spade: It made it much easier for us to take it off a meter than to run around and make the calculations, or take a chance of somebody fouling up a mathematical figure.

Jim Carson: Is it a clock?

Clement: No, it is a kilowatt hour meter. In some areas it would be good but in Philadelphia it wouldn't help so much because of the large proportion of row houses, where the sun and wind have less effect.

It would be more important in the country or in more open towns.

Gray: I gather from what you men say that it would be important as an aid to housekeeping rather than as a necessity.

Spade: For 99% of the operators I see it as an improvement.

We have this Johnson meter alongside the dispatcher's desk and this year began to deliver to 275's with different tolerances. We use the "K" factor to represent the number of degree-days per gallon of oil. This year when the "K" is over 2.5 we begin to work on it from the standpoint of reserve hours.

I believe we are going to be getting progressively tighter on reserves, and the dispatcher will be working from that meter all day long.

We may get a very cold day. Take a house with a 275 tank and a "K" of 1.5; before the meter he only knew the degree-day total once a day. Now he can take it any time of the day and he may be able to deliver faster to users with less reserve. The net result, hopefully, is that we may work up to an average of 15 gallons more per drop.

Gray: I can see a pretty good point in the whole thing. Now let's drop down to Oilheating Market Reports. We don't want a long session on this, but briefly do you think this concept of cooperative promotion will help sales of oilheating?

Spade: I don't see how it can fail to do it.

Gray: Have you noticed in your own markets a kind of "esprit de corps" or a somewhat stepped-up tempo?

Spade: Very much so. We have been running cooperative newspaper ads starting in October. The advertising manager of the Macy papers tells me that they have had ten times as many lines from oilheating dealers running tie-in ads as they had a year ago.

Gray: We were amazed at the figures on advertising sent in by the dealers for our January issue statistical job. In a broad sweep across the country oil heat advertising is running 50% over a year ago.

It has been our feeling that while the advertising is a help to interest the prospects, it has at least as much value in getting the industry to do more selling work all around. Tom, have you noticed in your Boston market any particular increased tempo, any inclination by oil men who sell equipment to get out and push sales harder?

Scott: All the dealers in our area who have been at all active in the program have had a good increase in sales this year.

Clement: We even see that in Philadelphia. They are going up for the first time in years, in comparison with the same months the previous year.

Spade: Our fellows are hiring salesmen.

Jim Carson: I think so, definitely. Dealers everywhere are becoming more aware of these activities. Some are waiting to see what the majors are going to do, but that in itself stimulates their sales thinking.

Is there any intent, say a year after the first program started, to measure what has taken place?

Gray: We are doing it now. We have put out our second study for Boston and Baltimore and several others are in work. We don't publish these in the magazine because they are candid and confidential, but we plan to get around to each market twice a year to find out just what has happened.

Jim Carson: I was thinking of the spiritual side of the thing. As these reports come out the smaller one-to-

three truck operator gets more interested. It isn't always the big guy that should run it. There's a need for more interest in the smaller men . . . they have been feeling too remote in the thing.

Gray: That is Tom Scott's biggest problem. There are 700 fueloil companies in the greater Boston market. They have gotten probably 175 into the program. They might represent half of the gallonage. I think they have done a grand job in just a few months.

As another phase of this promotional effort, there has been considerable agitation around the industry for years to get a movie prepared for showing to groups of consumers. I think we could get it done if the need for it is clear. We're thinking of a 14-minute movie that could also be used on television. What do you think?

Spade: I for one would like very much to have such a moving picture available.

Tom Carson: There could be showings at the service clubs.

Clement: What is it supposed to sell, the homeowner on the use of oil heat?

Spade: That's right—there's almost no limit to the number of uses it can be put to. As a matter of fact a lot of television stations would be very glad to have something to take up 14 minutes. You also have civic groups, parent organizations and the like.

Gray: You folks seem convinced that we should have it. We'll push the idea along.

Now in our September issue I see the fueloil management analysis based on results in the 1954-55 heating season. Across the board the average profit to the fueloil distributor was the best of any season thus far. It was just under a cent a gallon, net before income tax. How does this season look to you?

Clement: Of course the colder winter helped a lot last season.

Scott: We are looking at a weather picture that we think will be even better this season.

Spade: In our own company we will be spending somewhere between $10 and $15,000 for advertising promotion and subsidies to builders out of the profits we expect, which will be the same as last season.

Tom Carson: Are you trying to bring out whether profits are adequate or not?

Gray: No, I am trying to note that last season the average profit on No. 2 oil was .99¢ a gallon compared to .83¢ the year before. Has anything happened this season that would tend to make profits less attractive?

Tom Carson: Well, margins are about the same. Of course expenses have gone up. There has been a round of wage increases. But if we get any decent break on the weather we can come out all right.

Scott: November and December have been the coldest in many years. It's a nice start.

After a discussion of budget payment experience in which nothing particularly unusual was brought out, a sidelight was brought in by Clement.

Clement: I saw one cute twist on the subject the other day, at least it was new to me. One of the Philadelphia companies came out with a budget plan that includes an insurance policy.

Gray: Do you think that's important? We kind of passed it up at the magazine.

Clement: I do, yes.

Gray: Was this the insurance policy that makes the customer's budget payments if the man gets sick?

Clement: Yes.

Scott: You pay too much for it. It is really designed for a time sales proposition where there are considerable funds outstanding. When you sell a thousand dollars worth of equipment you have a thousand dollars tied up right now. The insurance on those payments can be pretty important.

A number of companies are trying to sell insurance for fueloil budgets, but it didn't look like a good proposition for our company.

Gray: On the financial end, that brings us to another point. A few companies have been raising the price of heating oil and then discounting the bill by the same amount for prompt payment. It's an old gimmick of the utilities. In your markets is there any trend this way?

Clement: It was tried out in Philadelphia and it was murder. Payments were made to the driver . . . slowed him up a lot. I don't like that.

Gray: What do you think of a system where they raise it a quarter cent and discount a quarter for 10 day payment?

Clement: How about raising it a cent and a quarter and giving them free service and then a quarter cent back?

Gray: Down on Cape Cod they are including service in the price of oil. Did you folks give any thought to that?

Spade: I've had it for nine years. Our service contract costs the user $18 a year plus a half cent on all oil delivered. We practically own the burner because anything that happens to it we fix.

We really get our customers to stick with us. Today 87% of them are on this arrangement and that, for my money, means that I have stopped all argument with 87% of my customers.

It is a continuing contract. The customer authorizes us to furnish their oil and render all services until we are told to stop.

Gray: *Our time is up, but anyway this is a good place to stop because that last pronouncement by Spade will stir up a lot of discussion in the industry. So we end on a high note.*

Clement . . . *"We never made any money on service."*

Fourth Canadian heating Show to open March 19 in Toronto

ON MARCH 19 the fourth National Heating & Airconditioning Show, sponsored by the Oil Heat Association, opens at the Automotive Building, Exhibition Park, Toronto, Canada and continues for three days.

The trade exhibition has grown from a small oilheating show occupying 90 booths in the Coliseum East Annex to what is now recognized as the national trade exposition of the automatic heating and cooling industries in Canada. This year's Show represents a 400% increase over the first Show in number of exhibitors participating and booths available for display.

The 1956 Show plays host to the National Warm Air Heating & Airconditioning Association of Canada, which is holding a three-day, non-technical, educational program at the same time. This will consist of a number of lectures and papers on topical subjects for the industry, plus a special continuous visual program on warm air heating.

Also, on Tuesday, March 20, the Oil Heat Association will hold its annual meeting in the morning, to be followed by a members' luncheon. Robert Gray, editor, FUELOIL & OIL HEAT, will be the featured speaker at the luncheon, during which OHA President E. H. McKinney will introduce the Association's board of directors.

The exposition itself is to be open from 10:00 A.M. to 10:00 P.M. on March 19, 20 and 21. Attendance registration is restricted to the trade, including heating and cooling equipment retailers and distributors, architects, building contractors, heating and airconditioning engineers and contractors, property management people, power engineers and fuel dealers. Admission tickets are being distributed by equipment exhibitors and from the Oil Heating Association.

Last year's total attendance reached 10,000 and this year the show management is confident it will be even greater. Special street car service has been organized during the three Show days direct to the Exhibition Loop.

The following list shows exhibitors as of February 15:

A. P. Green Fire Brick Co. Ltd. ..238-40
Aero Tool Works Limited 315-17
Age Publications Limited 125-27
Air Cond. Engineering Ltd. 206-08
Air Filter Service & Supply 119
Allanson Armature Mfg. Co. Ltd. .540-2-4
Allied Heating Appliances 413-5-7
Alvar Simpson Limited 352-4-6-8-60
Amalgamated Electric Corp. ...109-11-13
Anthes-Imperial Co. Limited 300-2-4
Arden Sutherland & Son Ltd. 501-3-5
Atlas-Webster Industries 108-10
Auto-Flo Corp. of Canada 422

Barlin-Scott Mfg. Co. Ltd. 401-3-5
Beach Foundry Limited 437
Beaver Pipe Tools Inc. 552-54
Boe Automotive & Ind. Supplies 336-8-40
Brown Boggs Fdry & Mach. Co. 450-2-4-6
Bryant Mfg. Co. Ltd. 500-204-6
Bulloch's Limited 447-49

Canada Foundry & Forgings Ltd. W11-15
Canadian Acme Screw & Gear Ltd. 220-22
Canadian Fairbanks Morse Co. Ltd. 510-12
Canadian General Electric Co. Ltd. 130-2-4-6, 311-13, 355-7-9
Canadian General Filters 342-44
Canadian Johns-Manville Co. 121-23
Canadian Oil Cos. Ltd. W4
Canadian Steeltube Boilers Ltd. W3
Carmichael Heat & Power 219-21-3
Chatco Steel Products Ltd. 419-21-3
Chatham Erecting Co. Ltd. 550
T. C. Chown Limited W5
Clare Brothers Ltd. 301-3-5
Coleman Lamp & Stove Co. Ltd. 459-61-3-5
Conroy Manufacturing Co. Ltd. ..215-17
Consumers' Gas Co. of Toronto ..307-09
Control Metering Limited 551

Danfoss Mfg. Co. 549
Delhi Industries 210-12
Diamalloy Manufacturing Ltd. 115-17
Dixie Foundry Supply Co. 234
Domestic Tank & Equip. Ltd. 225-27
Douglas Engineering Co. Ltd. 541
Douglas Metal Ind. Ltd. 536
Dundas Sheet Metal Works ...116-18-20
Duc-Pac Div., Swett Bros. Inc. 205

Elgee Distributors Ltd. 232
Enamel & Heating Products Ltd. 200-02-4
Engineering Industries Ltd. ...129-31-3-5

Fiberglas Canada Limited 414-16
Filter & Heating Supplies 235-7-9-41
Findlays Limited 249-51
Fred S. Beatty Products Ltd. 410-12
Frigidaire Products of Canada .513-15-17
FUELOIL & OIL HEAT W7

General Controls Co. 229-31-33
General Steel Wares Ltd. 425-7-9-31
Gilbert & Barker Mfg. Co. Ltd. 333-5-7-9-41
Gilson Mfg. Co. Ltd. 453-55
Grimsby Stove & Furnace Ltd. 211-13

Halco Heating Co. 543-45
Hall Agencies 254
Hamilton Aut. Htg. Units ..255-57-59-61
Handy & Harman 104
Heating & Plbg. Engineer 535
Heil Company 256-8-60
Hodgins Brothers 537-39
Howard Furnace & Foundries Ltd. 460-2-4

Imperial Refractories Ltd. 242-44-46
International Clover Co. Ltd. W6
Iron Fireman Mfg. Co. of Canada ..122-4

James Munroe Limited 451
James Stewart Mfg. Co. Ltd. 126-28
John Inglis Co. Ltd. 214-16
John Wood Co. Ltd. 400-02-04

Kleen-Flo Corporation 207-09
Kresno-Stamm Mfg. Co. 524-26

Lau Blower Co. 228-30
Lee Engineering Limited 440-2-4
Leland Electric Canada Ltd. 224-26
Lennox Industries (Canada) Ltd. 432-4-6
Liquifuels Limited 306-08
T. L. Livingston & Sons Ltd. ..146-8-50
Lloyd Register & Grille 433-35

Metalbestos Div., Wm. Wallace Co. 101-3
Microtron Filters Ltd. 438
Minneapolis-Honeywell 325-7-9-31
Mitchell Manufacturing Co. ...518-20-22
Morrison Products Inc. 418-20
Mueller Climatrol 361-63-65

McDermid Brothers Ltd. 532-4-6-8
McDonnell & Miller Inc. 247
R. McDougall Co. Ltd. 424
McKinnon Industries Ltd. 314-16-18

Niagara Heating Mfrs. Ltd. 112-14
Norseman Welding Limited W9-10

Oakwood Iron Works Ltd. 514-16
Ontor Laboratory Ltd. 143-5-7-9-51 153-5-7-9-61

Pease Foundry Company Ltd. ..407-9-11
Penn Controls Ltd. 310-12
Pepper's Automatic Stokers 105-07
Pittsburg Water Heater Co. 528-30
Prenco Progress & Eng. 253
Purolator Products (Canada) Ltd. .443-5

R.C.A. Victor Co. Ltd. 408
Ramset Fasteners Ltd. 457
Research Products 243-45
Robinson Oil Burners Ltd. 525-27-29
C. Roy Industries Ltd. 100-02
Ruud Manufacturing Co. 439-41
Ryders Complete Chimney Service 426-8-30

Schnurr & Kraemer Co. Ltd. 319-21-3
Scully Signal Ltd. 531-33
Selkirk Metal Products Ltd. W8
Shell Oil Co. of Canada Ltd. 328-30
Sonoco Products Co. of Canada 458
Standard San. & Dom. Rad. Ltd. 347-9-51-3
Stewart Warner Corp. 519-21-3
Stuart Enamelled Products Ltd. 547

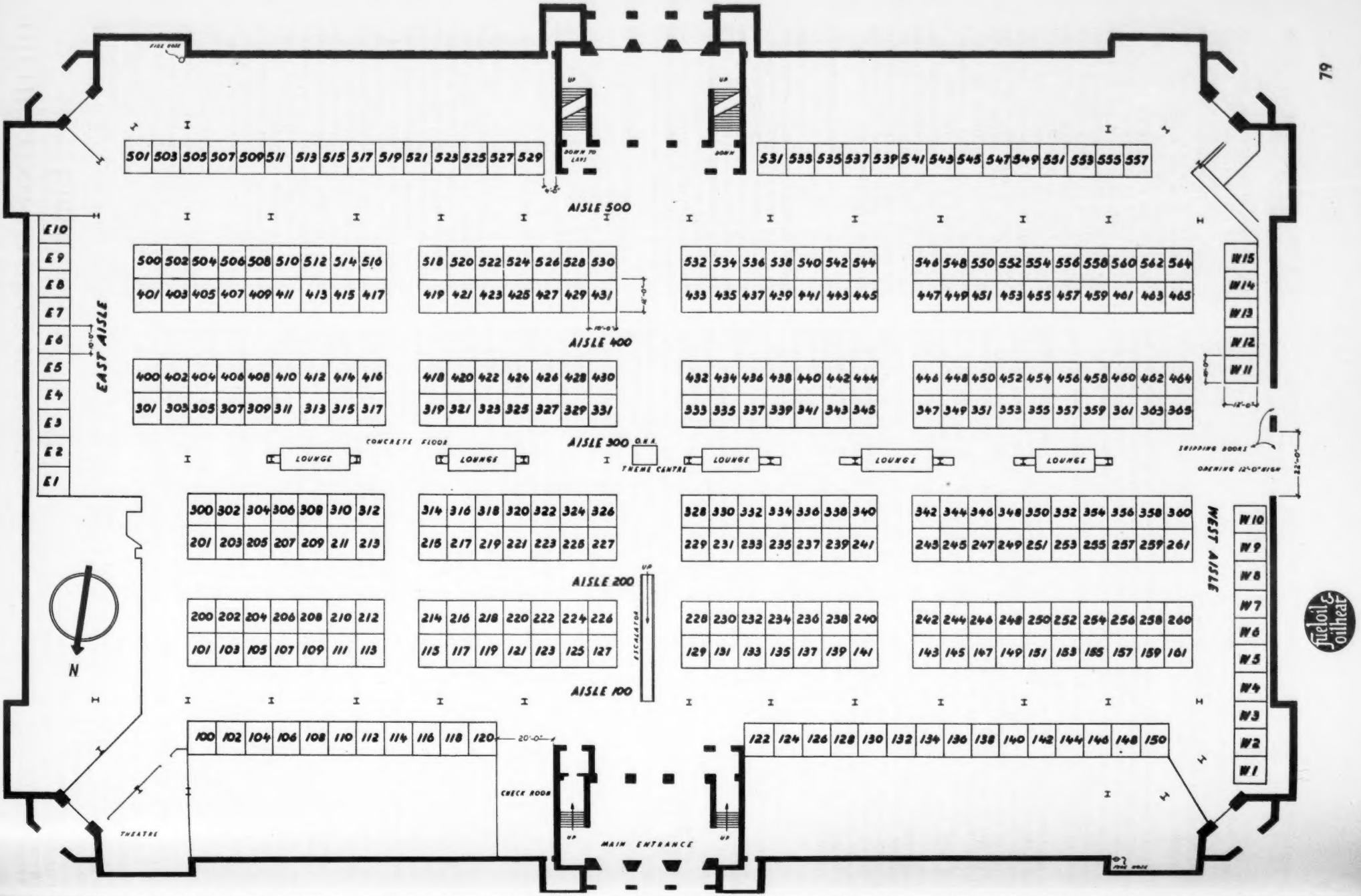
Terry Oil Burner Distributors ...140-2-4
Therm-O-Rite Products Ltd. ...E1 to 10
Timken Silent Automatic Div. ..320-2-4-6
Todd Engineering Co. Ltd. 509-11
Toledo Pipe Threading Mach. Co. 555-7
Torrington Mfg. Co. of Can. Ltd. 346-8-50
Trade-Way Sales Ltd. 562-64

Underwriters' Laboratories of Can. ..138
Upton Bradeen & James Ltd. 218

Vapor Car Heating Co. of Canada ..507

B. D. Wait Co. Ltd. 546-48
Walker Mfg. & Sales Corp. 201-3
A. E. Watts Limited 343-5
Western Foundry Co. Ltd. 446-8
White-Rodgers Limited 137-39-41
W. C. Wild Limited 406
Williams Oil-O-Matic Div. 248-50-52
Winnett Boyd Limited 508

York Machine Co. Ltd. 332-34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AISLE 500
E10
E9
E8
E7
E6
E5
E4
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E2
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EAST AISLE
500 502 504 506 508 510 512 514 516
401 403 405 407 409 411 413 415 417
518 520 522 524 526 528 530
419 421 423 425 427 429 431
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433 435 437 439 441 443 445
546 548 550 552 554 556 558 560 562 564
447 449 451 453 455 457 459 461 463 465
W15
W14
W13
W12
W11
AISLE 400
400 402 404 406 408 410 412 414 416
301 303 305 307 309 311 313 315 317
418 420 422 424 426 428 430
319 321 323 325 327 329 331
432 434 436 438 440 442 444
333 335 337 339 341 343 345
446 448 450 452 454 456 458 460 462 464
347 349 351 353 355 357 359 361 363 365
CONCRETE FLOOR
AISLE 300
LOUNGE
LOUNGE
LOUNGE
LOUNGE
LOUNGE
THEME CENTRE
SLIDING DOORS
OPENING 12'-0" HIGH
300 302 304 306 308 310 312
201 203 205 207 209 211 213
314 316 318 320 322 324 326
215 217 219 221 223 225 227
328 330 332 334 336 338 340
229 231 233 235 237 239 241
342 344 346 348 350 352 354 356 358 360
243 245 247 249 251 253 255 257 259 261
WEST AISLE
W10
W9
W8
W7
W6
W5
W4
W3
W2
W1
AISLE 200
ESCALATOR
200 202 204 206 208 210 212
101 103 105 107 109 111 113
214 216 218 220 222 224 226
115 117 119 121 123 125 127
228 230 232 234 236 238 240
129 131 133 135 137 139 141
242 244 246 248 250 252 254 256 258 260
143 145 147 149 151 153 155 157 159 161
N
AISLE 100
100 102 104 106 108 110 112 114 116 118 120
20'-0"
CHECK ROOM
122 124 126 128 130 132 134 136 138 140 142 144 146 148 150
THEATRE
MAIN ENTRANCE
UP
UP
UP
UP
FIRE DOOR
fuel oil & oilheat

OILHEATING MARKET REPORTS*

Binghamton, N. Y.

INCLUDED in this initial analysis of the Binghamton, N. Y., oilheating market are the entire counties of Broome and Tioga. While this area is perhaps a bit larger than should be considered as a single marketing operation, dealing with the two full counties makes it possible to base some of the original calculations upon the 1950 Census figures.

As of 1950, according to the Federal Census, there were 61,923 dwelling units in Broome and Tioga Counties. Of these, 51,162, or nearly 83%, were one- or two-family residences. And of these 61,923 occupied dwelling units of all types, (which figure includes apartment buildings) 47,280 were centrally-heated.

We estimate that 38,763 of these centrally-heated units were in the one- or two-family category.

Making the best use of such figures as are available in market estimates and adjusting these in the light of known trends, we believe the usage of various fuels, in centrally-heated, one- and two-family residences, at the beginning of 1955 and comparative 1950 Census figures, to be about as follows:

	1955	*1950*
Coal	12,792	25,582
Gas	17,131	8,184
Oil	8,524	3,757
Other	1,336	1,240
Total	39,783	38,763

In addition to the total of 8,524 oil-heated residences, the oilheating industry can count a relatively high additional number of installations—about 25%—in the small commercial classification. These additional 2,131 small commercial-type installations bring the total for all distillate oilburners in operation in the two-county area, in 1955, to 10,655, less than 1% of the total number of distillate oilburner installations in the state.

Competitive Fuels

Anthracite, for hand-firing, of 13,200 Btu content per pound, is sold in this area at prices averaging $20 per ton. The cost, per therm, of 100,000 Btu, is therefore 7.6¢, which makes coal the cheapest of the three important fuels . . . 20% cheaper, on a Btu basis, than No. 2 fueloil. Stoker coal figures to a cost of 7.2¢ per therm.

The Binghamton Gas Company, a Columbia Gas affiliate, serves the area with straight natural gas, of 1,000 Btu content. To make a reasonably accurate comparison of the relative costs of oil versus gas heat, consider as an example a yearly heat requirement of 2,100 therms over a nine-month heating season—the equivalent of a typical househeating consumption of 1,500 gallons of No. 2 fueloil per year.

In such a comparison, a use of 25 therms monthly at the highest, initial gas rates is computed—an ample allowance—for use of gas for cooking and water heating. All over that, within the limits of the monthly househeating requirements, is figured in the successive gas rate bracket in which it may fall. On such a basis the cost of gas for heating an average home with this heat requirement would come to $188.89 for the year against an equivalent cost for fueloil of $210.00.

In such a case, gas would be 10% cheaper than oilheating annually, at an average cost of 9¢ per therm.

No. 2 fueloil sold at an anticipated Winter rate of 14¢ per gallon costs 10¢ per therm.

Fueloil Distribution

Averaging the No. 2 heating oil usage among the residential and small commercial customers, we find that 2,623 gallons of oil per user were utilized in 1954. Since the last heating season was 7.2% warmer than normal, adjusting this figure gives an average normal consumption of 2,812 gallons annually. Multiplying this by the total of the 10,655 residential and small commercial oilheating customers then gives us a figure of 29,961,860 gallons of No. 2 heating oil—713,377 barrels—which is the indicated normal demand for the two-county area.

Practically all of this quantity (91%) is brought into the market by the major oil companies, transporting it via pipeline. The independent wholesale suppliers are not at all active in this particular market, although it is reported that several have shown an interest in lining up distribution for their supply.

At the retail level, the integrated, or major, oil companies sell 33% of the market gallonage direct. There is no tank wagon distribution by independent wholesale suppliers, so the balance of 67% of the retail volume is handled by the independent fuel-oil marketers.

More than half (57%) of the independent marketers maintain their own bulk storage facilities; the rest of the companies load at another company's racks. About 27% of the total market gallonage is purchased "under the fill."

Most of the oilheating customers receive their heating oil supply on an automatic delivery basis, with 86% of users' tanks scheduled on "keep-filled" service. VENT-ALARM fill signals are in use on 64% of all fueloil customers' storage tank installations.

Budget plan payment methods for the purchase of fueloil are followed by 33% of the customers. This may be an over-estimate, though, as this is the highest yet found in any market studied.

About 19% of the fueloil distributors in the two counties sell gasoline in addition to fueloil. Also, in keeping with conditions in other similar areas, 24% sell coal.

The number selling oilburning equipment is strong—at least 61% of the fuel-oil marketers handle oilburners and oilheating equipment.

Market Concentration

The distribution of No. 2 fueloil in Broome and Tioga Counties is quite evenly apportioned among twenty-eight independent marketers active in the area. The largest of these distributors operates six fueloil delivery trucks—the rest employ from one to three trucks each. There may be a few additional small, or part-time dealers who account for some minor share of the overall fueloil volume, but the 28 companies referred to, operating a total of 57 trucks, account for most, if not all, of the retail market gallonage delivered. (See table.)

Trucks per Company	*Number of Companies*	*Percent of All Companies*	*Total Trucks*	*Percent of All Trucks*
10 or over	0	..	..	..
6 to 9	1	4%	6	10%
3 to 5	7	25	21	37
1 or 2	20	71	30	53
Totals	28	100%	57	100%

Oilheating equipment Sales

The fueloil companies in this area accounted for about 43% of the total oilheating installations made in the market in 1954. Plumbing and heating companies, with no particular loyalty to oil heat, and generally (excepting for some who work with fueloil companies) no connection with fueloil, sold nearly as much, or 38%. The specialized burner service companies took the balance of 19%, or nearly a fifth.

Oilburner Service

Of all service work performed last year in this market, it is estimated the fueloil companies did 57%. The straight plumbing and heating companies still figured importantly in this field, rendering over a quarter (26%) of all the service work, and the specialized burner service companies accounted for the balance of 17% of the service work load.

While a rather low 28% of the oilheating customers in the two-county area subscribe to service plans of one type or another, an additional 47% of the oilburners receive an annual cleaning and tune-up. Three-quarters of all installed oilburners, therefore, are looked after on a regular basis, or at least once a year.

Service contracts including parts replacement are not offered universally by all companies handling service work, but among those who do provide this kind of service plan $25 is the average price charged. Contracts without parts are generally offered at around $14, annual clean-up jobs at a median price of $9. The average minimum price charged, per call, by fueloil companies is $3.50 while the charge by non-oil companies runs higher, at over $4.00.

Advertising Promotion

It was generally agreed upon among the oilmen assisting in this market study that the major oil companies have done but a moderate amount of oilheat advertising from an individual company standpoint.

Among the independent marketers it was judged that 59%, or nearly 3 out of 5, conducted some sort of advertising effort, individually. This is the highest degree of individual company advertising effort yet encountered. Figured on a basis of the amount budgeted per existing account for promotion, the fueloil marketers spent an average of $3.46—on a percentage of gross sales income their average expenditure for promotion was .77%.

Plans have been announced for the formation of an area Fueloil Council, and a Steering Committee was formed for the organizational phase of such a Council. George Savory, Savory Oil Co., Binghamton, heads the new committee.

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OILHEATING MARKET REPORTS*

Washington, D. C.

THE WASHINGTON, D. C., oilheating market, as considered in this report, corresponds to the Washington Standard Metropolitan Area as defined in the 1950 Census. This includes Montgomery and Prince Georges Counties in Maryland, Arlington and Fairfax Counties in Virginia and the cities of Alexandria and Falls Church, Va.

In 1950 at the time of the census there was a total of 405,111 occupied dwelling units of all types in this area, of which 240,678, or almost 60%, were of the one-or-two-family kind. In 1955, total dwelling units had increased in number to approximately 496,000, of which 309,000 were one-or-two-family residences.

Competitive Fuels

From rations for centrally-heated dwellings, issued in 1945, we find a total in the two Maryland and the two Virginia counties and the District of Columbia of 60,817 distillate oilburner installations. Between 1937 and 1945, gas, according to the Oil-Heat Institute of Greater Washington, had put in a total of 32,909 domestic installations. It is probable, however, that a substantial share of these were space heating applications rather than true central heating.

It is our belief that fuel usage, as of the first of 1955 in one-and-two-family centrally-heated homes, would be approximately as follows:

Coal	40,820
Gas	123,900
Oil	91,111
Other	10,453
Total	266,284

To the 91,111 residential oilburners above may be added another, estimated 4,100 domestic-type burners utilizing No. 2 fueloil in small commercial service, for a total of 95,211 distillate oilburners in use.

The big upsurge in gas househeating began in 1947 . . . gas permits issued, according to OHI of Washington, were 11,546 in that year compared to 2,833 issued the previous year and only 608 in 1945. Before the war gas had been putting in from 1,000 to 5,000 jobs each year, based upon permits issued.

Fuel Costs

Anthracite coal, in the sizes for hand-firing, runs around $24.30 per ton. There is practically no coal sold in this area for stoker firing. On the basis of 13,200 Btu/lb., the hand-fired variety of anthracite would cost an equivalent of 9.2¢ per therm (100,000 Btu). This is about 8% below the cost of No. 2 fueloil at its Winter rate, on a Btu basis.

Natural gas, of 1,050 Btu content per cubic foot, is furnished in the Washington area by the Washington Gas Light Company. This utility does not provide electric service.

The lowest net rate for gas, of 8½¢ per therm, is reached, in the Washington area, only after consumption of 60 therms per month. This is well above what the combined use of cooking, water heating and refrigeration would require.

Computations by OHI of Washington, on typical usages of gas for househeating, provide a more practical illustration of compartive fuel costs. They give a 5% efficiency advantage to gas over oilheating equipment.

They find oil cheaper than gas by 14% in the case of the houses using 800 or 1,000 gallons of oil, and by 13% in the larger homes using 1200 or 1400 gallons. There is, moreover, a 6 to 10% penalty on gas costs for non-payment of the gas bill within 20 days.

At the Winter rate of 14.1¢ per gallon the cost for No. 2 fueloil is just a little over 10¢ per therm, which gives oil the bargain position between the two fully-automatic fuels.

Fueloil Distribution

On the basis of our estimates, of 91,111 oilburners in residential use, and an additional 4,100 small commercial-type installations (employing a domestic burner and utilizing No. 2 fueloil) and figuring on average consumptions of 1,269 gallons per residential consumer and 3,478 per small commercial customer, the 1954 total market demand for fueloil was 129,879,695 gallons. Adjusting this volume upward for normal weather gives an indicated normal demand of 135,984,040 gallons, or a little over 3.2 million barrels. Estimates by local fueloil distributors and major company representatives averaged within 3 million gallons of this figure.

The major companies bring into the market about 83% of the total volume of No. 2 fueloil . . . the balance, of 17%, is handled by large independent wholesalers.

The distribution of fueloil at the retail or tank wagon level is almost divided between the major oil companies (20%) and the independent fueloil marketers (77%), with only a negligible 3% done by the independent wholesalers.

Nearly a quarter (24%) of the independent marketers have no bulk storage facilities of their own, depending upon purchase of their supply "under the fill" from other companies. About 14% of the total market gallonage is bought in this way.

Delivery practices conform to the patterns of most other eastern markets. Automatic deliveries are made, for example, to 79% of all fueloil customers; 78% of all users' tanks are equipped with VENTALARM fill signals. The use of budget plans is also relatively well-accepted in this market among oilheat customers, 20% of whom have adopted this equalized monthly payment method.

Market Concentration

The important volume of fueloil at the retail level is handled by a relatively few . . . 27 . . . companies, mostly of larger-than-usual size. This illustrates the high degree of concentration of the fueloil distribution among large, dominant operators, and provides a further clue to the nature of this market. For here, due to the struggle for survival brought about by successful gas competition, only the strong have been able to hold out and consolidation of smaller businesses have concentrated the diminishing or static fueloil volumes in the hands of relatively few:

1 Company has 65 trucks
7 Companies have from 10 to 20 trucks
6 Companies have from 6 to 9 trucks
10 Companies have from 3 to 5 trucks
Only 3 Companies have 2 trucks

The total of 27 Companies have a total of 250 trucks.

We see that the overall average of trucks operated is over nine per company . . . an unusually high degree of concentration.

A high percentage of Washington fueloil marketers are also in the coal business . . . 55% . . . according to estimates by the oil men interviewed. Another way to look at this, of course, is that a lot of coal companies are now in the oil business.

Only 11% of Washington's independent fueloil distributors also sell gasoline. Among all fueloil distributors, including all of the very small dealers, 83% sell oilburning equipment. Limiting this activity to the fewer, large companies alone who are the primary factor in the market, this percentage would probably be increased to 93%.

As indicated, the sale of new oilburners has dropped off importantly in latter years. Of such equipment sales as are still made, the companies who handle fueloil accounted for 81% in 1954. The straight plumbing and heating companies sold another 17%, while sales of oilburners by specialized oilburner service companies, at 2% of the total, were of almost no consequence.

Oilburner Service

Again, as in the case of equipment sales, the fueloil companies handle the bulk (90%) of oilburner service work. The plumbing and heating firms and the specialized burner service firms do 5% each.

Oilburner service contracts including replacement of parts average just under $21 here; contracts which do not cover parts run around $17. The typical annual clean-up costs about $11.

Minimum hourly service call charges run higher than the usual, at a median of $4.90 among fueloil companies, $5.65 among companies who do not handle fueloil.

Over half (58%) of the oilheated homes in this area, understandably, are covered under some type of oilburner service contract.

Another 23% of the oilburners receive an annual clean-up or overhaul not included under a service contract.

Advertising Promotion

In the opinion of most of the representative oil men of the area, major oil companies have not done any substantial degree of advertising of oilheat over their own company signatures.

The independent marketers of fueloil engaged somewhat more heavily in consumer advertising—the consensus is that 31% of all such companies conducted advertising programs in the usual media channels. In these efforts, the typical company spent an average of $2.25 per customer account on its books; figured in percentage of gross sales income, such budgets came to an average of just under 1% of total sales.

In the years 1950, 1951 and 1952, the Oil-Heat Institute of Greater Washington developed rather substantial cooperative promotional programs. Budgets of $11,000, $15,000 and $12,000 were financed during those years—principally at the dealer level.

Under OHI's sponsorship, about 90% of the independent fueloil distributors operating in the market, representing an estimated 85% of the total retail market gallonage, participated. Newspapers and radio were the principal media used; contributions were figured at a rate of $55.00 per No. 2 fueloil truck owned.

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Simplified duct Installation

Part IV—Proper Circulation, control Settings and Balancing for the completed System

by

Carl Machia*

PROPER CIRCULATION, the most important principle of forced warm air heating, frequently is overlooked. Too often an otherwise good installation provides poor heating, because sufficient care is not taken in adjusting air circulation.

In any weather which produces an appreciable demand for heat, continuous circulation of warm air is advisable. For the average home, the fan operates at the correct speed when it delivers an amount of air that can be raised from 85° to 100° as it passes through the furnace with both burner and fan running continuously. This is called "Temperature rise through the unit." To arrive at the correct temperature rise, follow these five steps:

1. Turn up the thermostat so that the burner will operate throughout the test.

2. Snap on the summer switch or short fan switch so the fan will run throughout the test.

3. Place an air temperature thermometer in the duct in such a location that it will not be affected by radiation from the body of the furnace (see Fig. 35).

4. If the temperature on the thermometer levels out at less than 155°, the fan is running too fast. If it levels out at more than 170°, the fan is running too slowly.

5. Adjust fan speed until temperature levels out between 155° and 170°. (Most fans have adjustable pulleys which permit this change. If this is not the case, a smaller or larger motor pulley may have to be used.)

The following steps provide an accurate method of setting fan control stopping temperature without regard to the temperature indicated by the dial of the control.

1. Set stopping temperature adjustment well below room temperature so fan will run continuously.

2. Turn down room thermostat as far as it will go to shut off burner.

3. Let blower run for about 30 minutes or until a thermometer in the duct (Fig. 35) reads about the same as the thermometer on the room thermostat. (Removing access door on return air side will speed temperature reduction.)

4. "Inch" up the fan control setting until the fan just stops. This will be your correct stopping temperature regardless of what the dial on the control reads.

5. Mark this correct setting on the plenum for later reference.

The limit control should be set to shut off the burner at 170°. The limit control is a safety control and should be checked out as one. Limit settings are sometimes off as much as 35°.

Put the fan setting above 200° so the fan will not come on. Turn up the thermostat to start the burner. Run the unit until the burner shuts off. If the limit is set at 170°, and the thermometer reads 170° when the burner shuts off, you will know the limit control setting is correct. If the burner goes off before the limit control setting temperature is reached, push the control setting higher until you find a setting that will shut off the burner when the thermometer reads 170°. Mark the control setting on the plenum for future reference. If the burner goes off after 170° is reached, reverse this procedure.

Next is balancing the system. With controls set, only setting of the dampers is required to balance out the system. Follow these steps:

1. Set the room thermostat at the desired temperature.

2. Place portable room thermometers at table heights in the middle of each room.

3. Allow the burner to run a short time and observe room temperature.

4. If any room is warmer or colder than desired, reduce or increase the air flow to that room by adjusting the damper in the warm air branch.

Some heating men use an air velocity measuring instrument. If you have one available, simply measure the air velocity. If one room is colder than it should be, adjust the dampers to allow more feet per minute of air to enter the room.

A good job of balancing may take a few hours, but is well worth it. It can save a considerable amount of time and trouble in service calls later. And it leaves your customer with the feeling that you're a heating man who knows his business. Remember, a homeowner judges his heating system on one basis only: results.

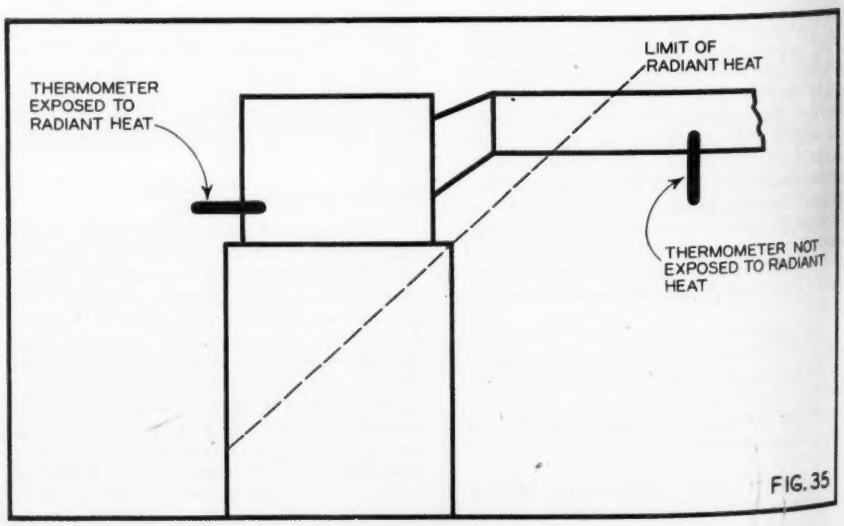
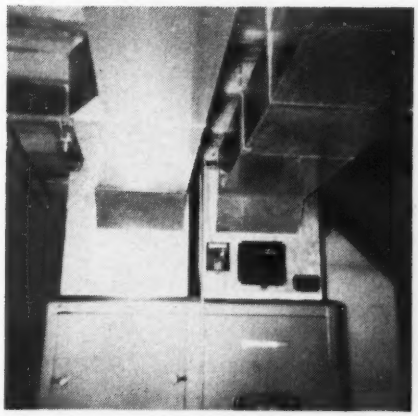


FIG. 35

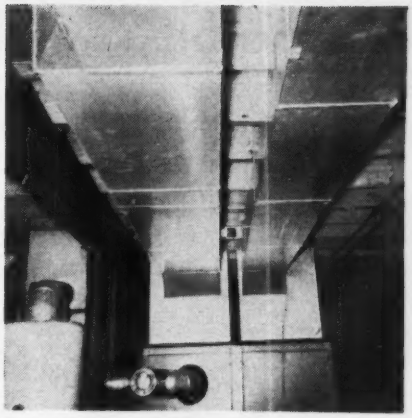
*Supervisor of warm air duct installations, Duc-Pac Division, Swett Bros., Springfield, Mass.

Pre-Fabricated Duct Work Installed

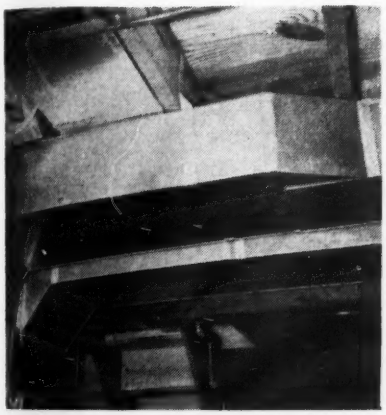
Typical small house.



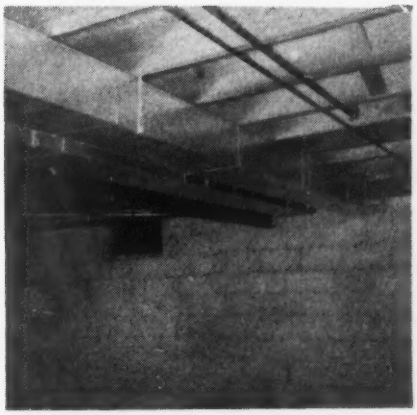
Plenum and take off.



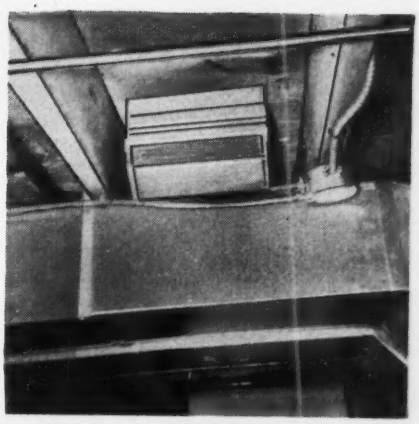
Plenum and trunk line.



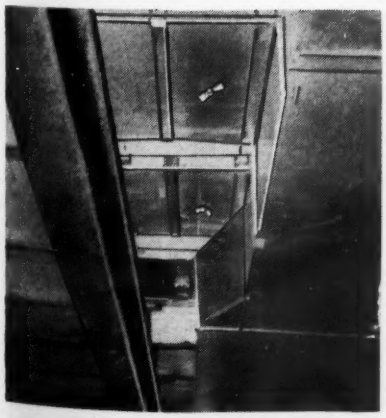
Trunk line increaser.



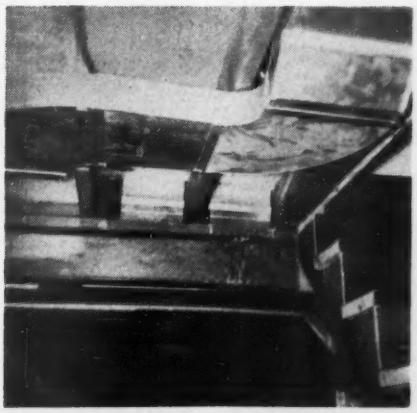
Trunk line.



Elbow to top take off.



Damper locations.



45° elbows as offset.

Stack duct and straps.

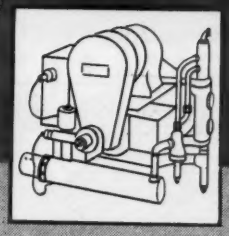
Philadelphia's Allied opens new Headquarters

A MOVE from Philadelphia proper to suburban Bala-Cynwyd, Pa., has enabled the Allied Oil Co., Inc., to more than double its usable office space and operate from a site much more centrally-located in relation to its seven terminals in and around Philadelphia. Company headquarters, formerly at 1630 South 51st St., Philadelphia, have been relocated at 145 Montgomery Ave., Bala-Cynwyd, Pa.

Here will be centered all billing, administrative and sales operations in connection with fueloil sold at wholesale to dealers in the general Metropolitan Philadelphia area. Pictures on this page highlight the new headquarters, beginning at the top of the page with an exterior shot. Allied took over an old frame house, built an extension of Roman brick and limestone trim in front of it, housing executive and general offices, modernized the remaining rooms on the first floor for accounting, billing and other office functions, leaving the upper stories for rental.

Directly beneath the exterior view is a look at the general offices. Across the bottom of the page are shown Albert K. Kaye, secretary of Allied, conferring with President Hugo V. Spitzer. Alongside, an operator prepares to make up a regular statement for a dealer customer of Allied.

Allied prepares a semi-monthly bulletin for its customers, containing information on degree-days, supply and market conditions and is readying a service whereby the dealers can call daily and get current degree-day data via a tape recording and answering service.



COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

Handling and burning Today's No. 6 Oils

An Outline of the three principal Steps to follow in Designing residual oil Installations

by

G. W. Bohn*

THE BUREAU OF MINES, U. S. Dept. of Interior recently published Circular 7730 entitled "National Survey of Burner-Fueloils 1955." Summaries of this survey in tabulated form were published in the January 1955 issue of FUELOIL & OIL HEAT.

It is interesting to note that the average viscosity Furol at 122°F of No. 6 fueloil ranged from a low of 148.9 in the Western region to a high of 195.3 in the Central region. Further, the maximum viscosity Furol at 122°F ranged from 236 in the Western region to 295 in the Central region.

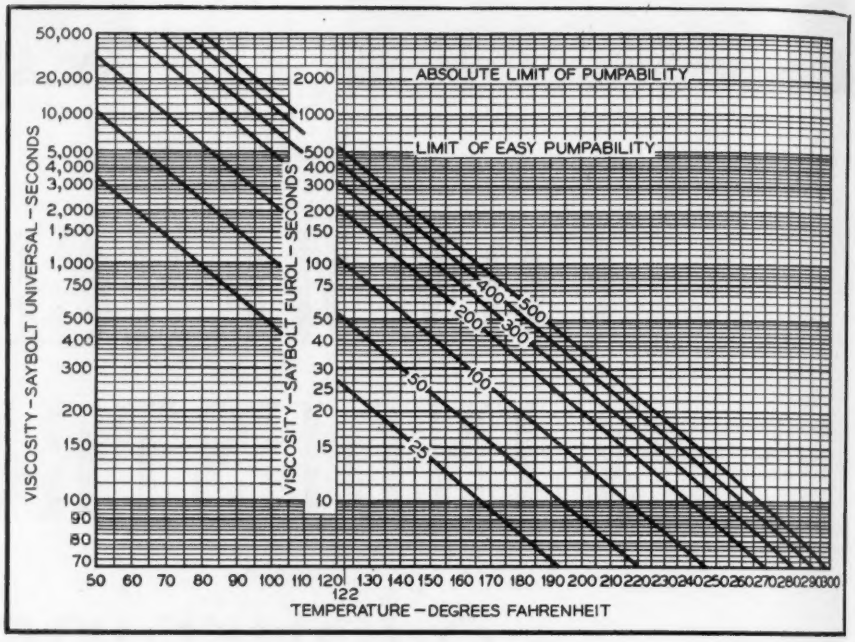
These average and maximum viscosities are known to be considerably higher than they were a few years ago and there is every reason to believe that the near future will bring with it No. 6 oil of higher average viscosity, if not of higher maximum viscosity. Further a high percentage of today's No. 6 fueloil is a blended oil that does not remain stable in storage.

In view of these facts and probabilities it appears to be most advisable that new installations for the storage, handling and burning of No. 6 fueloil be engineered for an oil of approximately 300 SSF viscosity at 122°F.

Now that we have a basis for design it will simplify the problem to divide it into three steps—

Step No. 1—Planning for maintaining oil in storage tank (at locations other than tank end of oil suction line) above pour point temperature.

Step No. 2—Maintaining temperature of oil in suction line and in area of tank at location of suction stub so that it will have a viscosity of easy pumpability.



Diag. 1. *How to determine viscosity at which oil is to be pumped. Given the Furol viscosity of an oil at 122° F., follow diagonal line corresponding to this viscosity up or down to the vertical line corresponding to the temperature at which the oil is to be pumped. Then read across horizontally to the left-hand margin and read the Saybolt seconds of the oil at the pumping temperature. Then use pipe loss chart most nearly corresponding to the Saybolt seconds of the oil and select pipe size accordingly.*

Step No. 3—Provisions for the satisfactory burning of the oil.

The type and size of oil storage supply tanks will vary from large above-ground tanks, as required for large installations remotely located from source of supply, to tanks buried below ground or installed in a vault inside of a building. Obviously the rate of heat loss from such tanks will vary widely, but the fact remains that provisions should be made to maintain the oil in storage at a temperature that is a few degrees above the maximum expected pour point temperature of the oil.

In planning installations where there is a probability that the boilers will be shut down over weekends or from an extended period during winter months, a study of the expected rate of heat loss from the stored oil in the tank should be made and a decision reached as to the advisability of equipping the storage tank with heating coils so that the entire mass of oil in the tank may be brought to a high temperature prior to shut down. Such heating coils should be in addition to and separate from the suction stub heating coils that may be used to maintain the oil in the tank at location of suction stub at a pumpable viscosity.

On installations where the heat loss from the oil in the tank is excessive due to local climatic conditions or to tank installation conditions, it may be found necessary to use the tank heating coils to maintain the stored oil above its pour point temperature during boiler and burner operation to insure its flow in the tank to the location of the oil pump's suction line stub.

The 1955 survey of Fueloils reports the finding of delivered No. 6 oils in Eastern region, Southern region and Central region with pour point temperatures as high as 80°F and in the Rocky Mountain region and in the

*Preferred Utilities Mfg. Corp., New York 23, N. Y.

Western region as high as 60°F. No average found pour point temperatures are given in this report.

In view of the above it would be good engineering to provide for the proper storage of No. 6 fueloil having a pour point as high as 80°F, but it might be considered more practical to plan for a maximum pour point of 40°F and then make this pour point temperature a part of the oil purchase specifications.

A decision in this matter had better be made after consulting with a reliable local No. 6 fueloil supplier, who is familiar with the local problems of No. 6 oil storage of past and present oil deliveries.

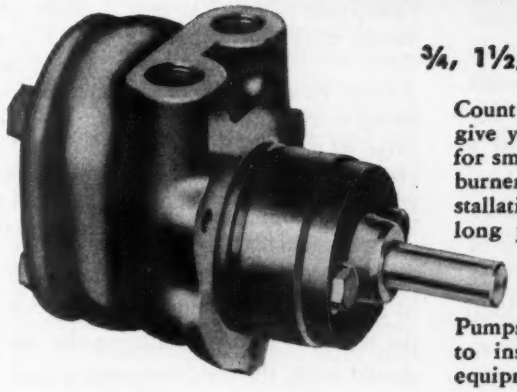
In planning satisfactory storage for present and future No. 6 oil, it would be well to take into consideration the fact that a high percentage of today's No. 6 is a blended oil that is prone to separate in storage with the heavy oil settling to the bottom of the tank and the light oil rising to the top of the tank.

In engineering the pumping and handling of No. 6 fueloil from the tank to the oilburner equipment we are interested mainly in the viscosity of the fueloil because this determines the temperature at which the oil will assume a viscosity of "easy pumpability."

The term "easy pumpability" has been adopted by the fueloil industry as descriptive of an oil that is in a state of maximum viscosity of 5000 SSU. Oils in a state of higher viscosity than 5000 SSU can be pumped at the sacrifice of pump capacity, extremes in suction line pipe size, sacrifice of vertical lift, difficulties with strainers, etc.

It is, therefore, considered good practice to design for the pumping and handling of fueloil at a maximum viscosity of 5000 SSU.

This brings us to the point of decision as to the probable viscosity of the No. 6 fueloil that we must be prepared to handle. Referring again to the recent survey we find that No. 6 fueloil having a viscosity as high as 295 SSF at 122°F is being delivered today. Further we know that a high percentage of today's fueloil is a blended oil with the probability existing that the



¾, 1½, 3 and 5 G. P. M. SIZES

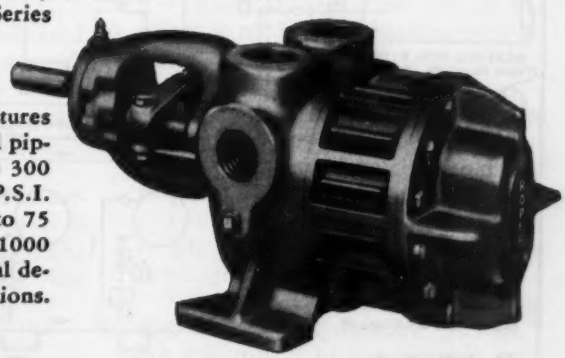
Count on Roper Series "K" Pumps to give you the features that are essential for small and medium-size industrial oil burners. Compactness and ease of installation . . . dependable operation over long periods of running time . . . fuel supply at correct pressure and viscosity are but a few advantages offered by Roper Series "K" Pumps. You owe it to those you serve to install Ropers as either original equipment or replacement.

Tested and Approved for Oil Burner Service

Roper Series "K" Rotary Pumps meet the standards set up by Underwriter's Laboratories, Inc. and then some! These reliable pumps for oil burner service are available in either packed box or mechanical seal designs — with or without relief valve. The 3/4, 1-1/2, and 3 G.P.M. sizes are flange mounted . . . 5 G.P.M. size is foot mounted.

For Heavy Duty Installations

In the larger oil burners — those burning Bunker "C" oil or heavy fuels — Roper Series "F" and Series "H" are recommended. Both are positive displacement pumps, self-lubricated by liquid pumped. Series "F" features four-port design for 8 optional piping arrangements — sizes 1 to 300 G.P.M., pressures to 300 P.S.I. Series "H" Pumps come in 5 to 75 G.P.M. sizes — pressures to 1000 P.S.I. Also available are special design pumps for unusual applications.



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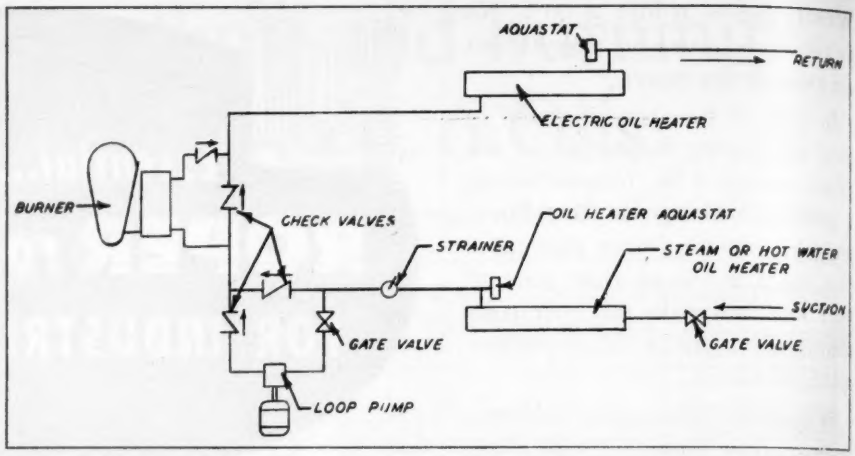
heavy oil used in the blend may have a viscosity of 295 SSF at 122°F or higher. We know that the heavy oil in the blends very frequently settles in storage to the bottom of the tank. It therefore seems advisable to plan for pumping and handling an oil of approximately 300 SSF viscosity at 122°F.

We now refer to Diag. 1 for information as to the required temperature to maintain an oil of 300 SSF viscosity at 122°F at a viscosity of 5000 SSU. Following upward on the diagonal line corresponding to a viscosity of 300 SSF at 122°F, we find that it crosses the horizontal 5000 SSU line at the point of intersection with the 110°F vertical extension temperature line. We now know that we should arrange for maintaining an oil temperature of 110°F in our suction lines and size these lines for handling an oil of 5000 SSU viscosity.

Fortunately No. 6 oils always are delivered by the supplier at temperatures considerably above the temperature required to insure the oil being within the viscosity range of "easy pumpability." We, therefore, need only plan to maintain the oil in the suction line and in the tank area surrounding the entrance to suction line in a state of "easy pumpability." For the best way of accomplishing this we should study the conditions of the particular job.

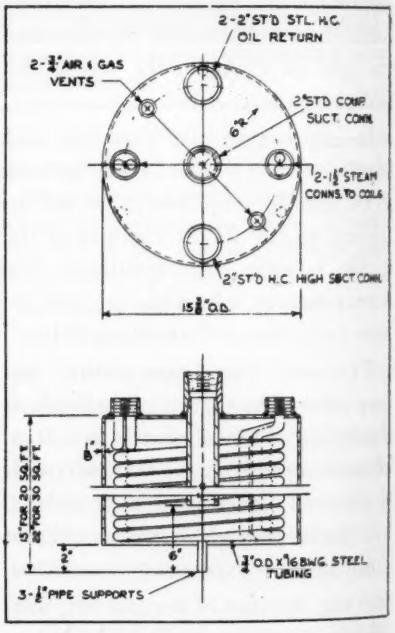
On jobs where the oil is moved from the tank to the oilburner by the primary oil pump on the burner, a system, shown and described in Diag. 2, operates automatically whenever the burner is shut down. Note that the off-period circulating pump is connected electrically so that when the burner is shut off it will operate automatically and circulate the oil from the tank through the suction line and into the return line close to the suction line connection to the oilburner.

This system when properly proportioned for job conditions has proved to be very successful in maintaining required oil temperatures in the tank suction and return lines during burner operation and shut down periods. With

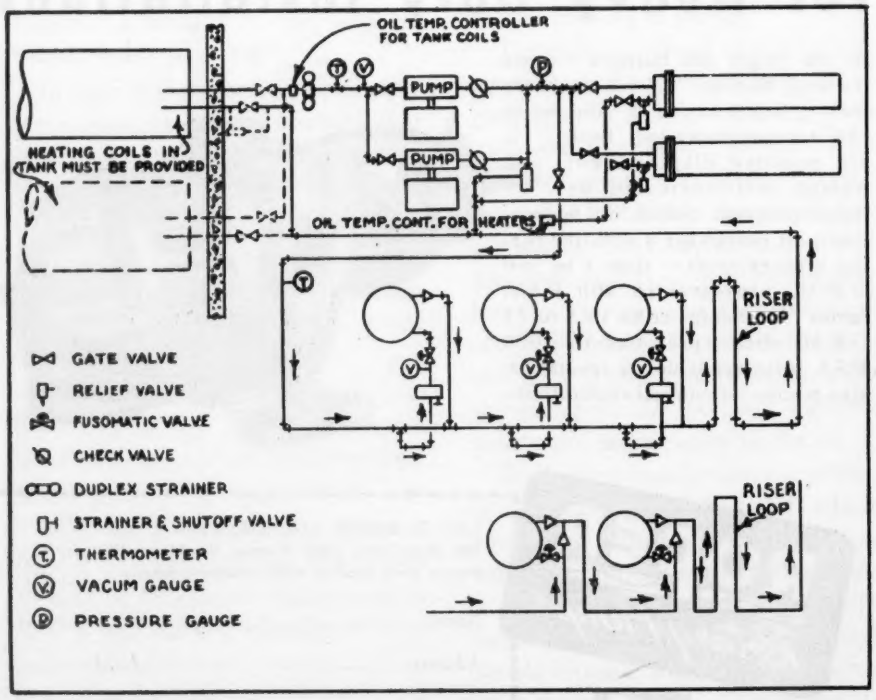


Diag. 2. *Schematic diagram for piping of off-period burner loop system. Oil pump shown is capable of pumping 110 gph against a 50 psi head. Motor is ½ hp, 1140 rpm, 110 or 220 volt, 3 phase, 60 cycle. Loop pump is wired to run when burner is off. Electric heater shown is sized for a 30° F. rise. Heater to be wired through main power switch of burner.*

Loop pump as piped into suction line may be located at any convenient place along suction line. Loop pump and electric heater shown are intended to overcome heat losses of oil in piping and tank during off period. If heat losses are greater than above sized pump and heater can overcome, electric heater or electric heater and pump should be sized to meet this condition. All oil lines to be adequately insulated.



Diag. 3. *Double coil type bell heater.*



Diag. 4. *Loop system used where more two or more burners receive oil from the same piping system.*

fireye Control Progress

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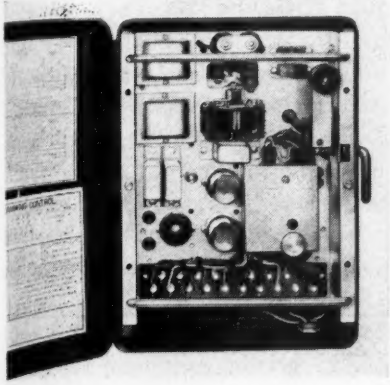


New Programming Unit For Automatic SA Burners

This new Fireye FP-2 Model 1012 control is now being specified by leading manufacturers for use with automatic steam atomizing burners on packaged watertube boilers.

It offers the fastest shutdown time of any primary control on the market —less than one second after flame failure — and in addition, it provides *for the first time,* safety shutoff in the event of dangerously off-ratio firing.

The control employs two Fireye *Firetron* scanners — one for pilot only. The main flame scanner, located at the back of the combustion chamber, shuts down the burner when the density of smoke obscuring its view reaches approximately 60%. On combination burners firing gas, the pilot scanner also monitors the main gas flame.

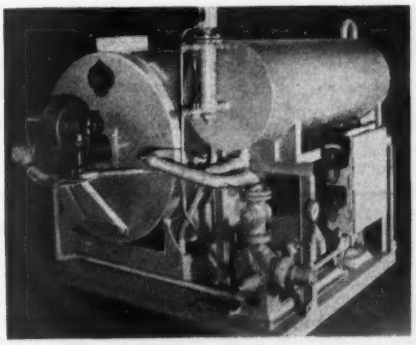
Automatic switching within the unit provides combustion air control to assure adequate prepurge, driving toward full open for 15 seconds and back to the low fire start position for 15 seconds before igniting the pilot. Terminal connections permit incorporation of air flow and other interlocks in the flame relay circuit.

Heater Manufacturer Improves Product — Saves Wiring Cost

Wm. Bros Boiler and Mfg. Company solved their control problems with Fireye equipment.

Bros wanted a compact, rugged "package" of electrical controls for their portable *Hi-Heat Oil Heaters* used in highway construction. They recognized that their old setup of separate controls scattered about the unit was costly and would not stand the gaff of rough outdoor use.

Fireye met all requirements, supplying a compact 24 x 27 x 8 inch weatherproof, dust tight cabinet, complete with FJ-2 programming control, motor starters, transformer, pump starters, five pushbutton stations, and three indicating lights.



When the systems were delivered, they had been expertly wired and pretested so that all Bros had to do was to connect external circuits and control valves and the heaters were ready to be shipped.

Fireye Engineers will be glad to survey your equipment with an eye to improving control systems, cutting assembly costs, and simplifying field servicing.

Here's Help With NYC Smoke Code

New York City's new smoke code, effective January 1, 1956, reads in part:

"11.2.1.2 All fuel burning equipment hereafter installed using residual oils, or bituminous coal having a volatile content over 20 per cent, shall be provided with an automatic smoke alarm."

Fireye Smoke Density Indicator System FE-3 more than meets the new code requirements, and a minimum of time and cost is required for its installation and maintenance. Properly applied, it often brings about fuel savings which repay its cost within a few months.

If you have any problems in connection with air pollution control or local smoke codes, your Fireye Engineer will be glad to help you Also, send for new Fireye Bulletin CM-22, completely describing this equipment.

Fireye Plan *Makes Modernization Pay*

Commercial-industrial dealers are intent on making this normally slow season a profitable one from the standpoint of replacement and accessory equipment sales.

Dealers throughout the country are actively scheduling and following-up the *service checks* of heat and power installations that help both their customers and themselves.

Back of this activity is Fireye's Burner Modernization Plan.

You know how the plan works . . . your own servicemen make modernization surveys of customers' fuel burning equipment. The "package" that we supply gives you the ammunition you need to follow-up the surveys with sales of your most profitable equipment items. Here is what it contains:

Modernization Check List. 4-page check list developed by service experts to uncover every opportunity for sales in a burner-boiler installation.

Modernization Report Form. Based on the check list. A convenient, 4-page "Special Report." May save your prospect damage, lost time from equipment failure.

Report Cover. Neat, attractive folder for presenting your recommendations to the burner owner.

Fireye Bulletins. Four out of five plants do not have adequate safeguards. You'll want these bulletins to tell the Fireye story to these prospects.

Sample Sales Letters. Tested sales messages that get your prospect's favorable attention for your proposal and help you complete sales.

Your Order Form for as many copies as you can use of the material in the "package."

Write on your letterhead for your copy of the modernization "package." We will rush it to you together with complete instructions for its use.

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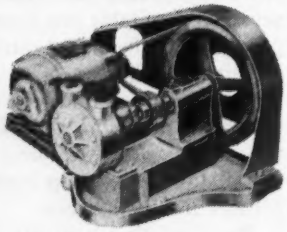

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Of the internal gear type, the "60" is machined to close tolerances—for maximum vacuum characteristics with heavy and cold oil. The outstanding design advantage is the ball bearing, V-belt reduction drive—connected to pump by means of loose coupling, which eliminates side deflection from pump shaft. Suction and discharge sizes from ½" to 2". Capacities, 75 to 2100 GPH; pressures to 100 psi.

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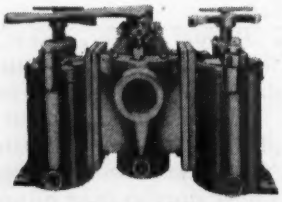

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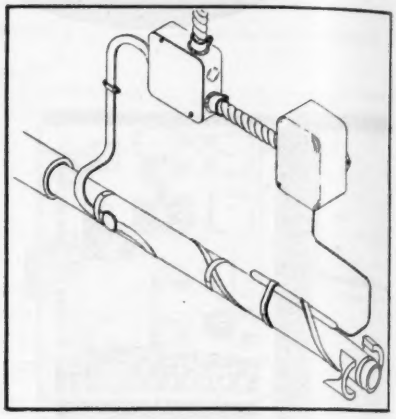
this system, as with all other systems, if there is any question as to whether the heat input by the return oil will be enough to maintain a sufficient volume of oil at a pumpable temperature in the tank at the suction line entrance, a suction bell heater as shown in Diag. 3 can be installed and the coils supplied with hot water or steam. The coils should be of sufficient capacity to furnish the required heat input.

Where there are two or more burners on the job it may be advantageous to install a loop system as shown in Diag. 4. Such a system can be designed to use hot water, steam and electricity for oil preheating and arranged so that electric heating automatically takes over in the event that hot water or steam is not available. This system can operate constantly during burner operation and intermittently during burner shut down. It thus insures the maintenance of required oil temperature for oil pumping and burner operation both during burner operation and during burner shutdown. Regardless of the system used the oil lines should be insulated.

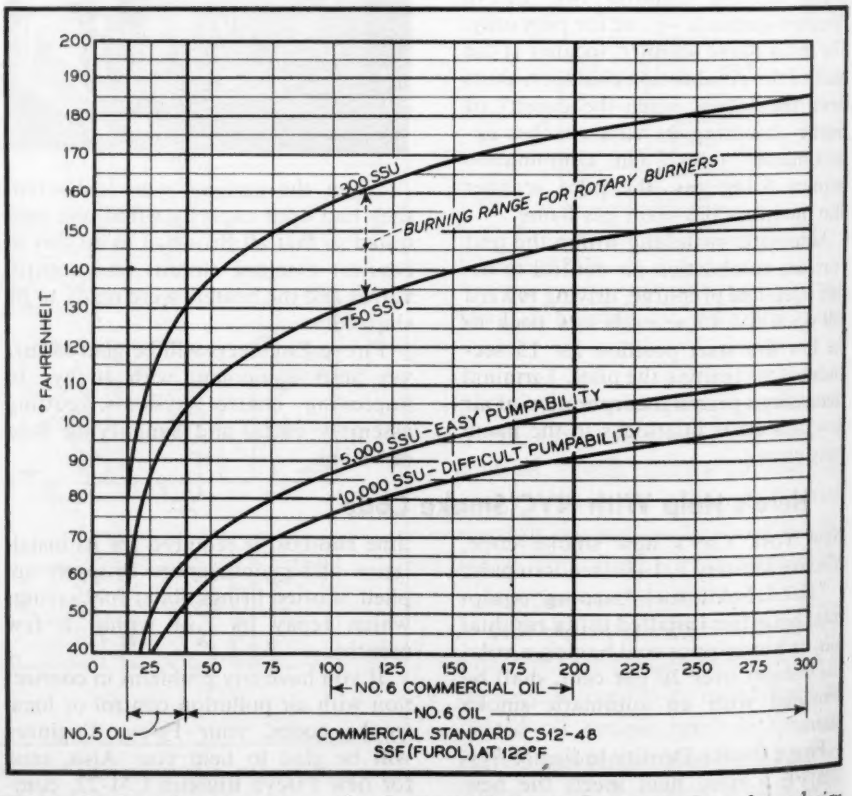
If the installation costs prohibit the use of the above-described systems and the job operating conditions are such

COMMERCIAL & INDUSTRIAL oilburning



Diag. 5. *Ribbon heat with thermostatic control.*

that the main cause for concern is the cooling off of the oil in the lines during shut down periods, this can be taken care of by tracing the oil lines with steam or hot water piping within the pipe insulating covering or by using low voltage electric resistance heating of the "oil pipes." This can be done by wrapping the oil pipes with electric resistance wire with thermostatic con-



Diag. 6. *Best burning range for horizontal rotary burners of modern design.*

trol as shown in Diag. 5 or by arranging to pass low voltage electric current through the length of pipe with thermostatic control.

The proper sizing of the oil piping is of utmost importance to insure satisfactory handling of the fueloil. Particular attention must be given to the sizing of the suction lines because the only available force to cause the oil to flow from a tank with the oil level below the pump level is the differential between atmosphere and the pressure at oil pump inlet connection.

A first class oil pump when new will develop a maximum of 27 inches Hg. negative atmospheric pressure or vacuum at suction entrance to pump. It is good practice to design oil suction lines so that not more than 18", preferably not more than 16" Hg. of vacuum, will be required at pump entrance to insure full oil supply to the pump. This allows for pump wear, a small increase in the planned oil viscosity, and a possible small increase in resistance through suction line oil strainers and suction line oil heaters over that used in calculations. The resistance of flow through pipe fittings can be ignored because the velocity of flow in a properly sized line will be so low that the change in direction of flow will cause only negligible resistance. Total pressure drop will include:

1. Resistance to flow of 5000 SSU fueloil.
2. Vertical lift at .85" Hg. per ft.
3. Suction strainer chosen for maximum pressure drop of 3" Hg.
4. Line oil heater chosen for maximum drop of 2" Hg.

With the above information and the use of pipeline friction chart shown in Diag. 6, we can determine the proper size piping for any job conditions. For example:

Assume job conditions call for a pumping rate of 100 gph. Length of required suction line is 50 ft. Vertical lift to pump suction is 12 ft. Strainer and oil line heater have been chosen for above given maximum friction loss. Fueloil at 5000 SSU viscosity.

12 ft. at .85" Hg. per foot ..	10.2"	Hg.
Suction strainer	3.0"	"
Suction line oil heater	2.0"	"
50 ft. 2" Suction line	2.6"	"
Pump vacuum required ...	17.8"	"

Note this example makes clear the need for caution regarding the following:

1. Oil in tank at location of suction stub and in suction line should be maintained at a temperature that will insure a viscosity of 5000 SSU or lower.
2. The location and diameter of oil storage tank should be chosen to provide a maximum vertical oil lift of not more than 12 ft. If this cannot be complied with then the oil pump should be located close to the tank by using a loop system of oil circulation as described previously in this article.
3. Choose suction line strainers and suction oil line heaters that have minimum resistance for the required rate of fueloil flow.
4. Continue chosen pipe size as near as feasible to pump suction entrance.
5. Insulate entire suction line against heat loss and, if operating and job conditions require, provide for constant heating of oil in suction lines.

Before proceeding to Step No. 3 it might be well to caution against planning to heat the oil in the suction line

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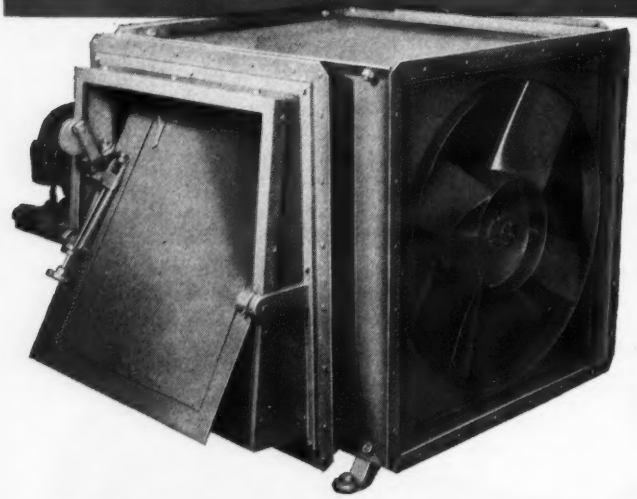

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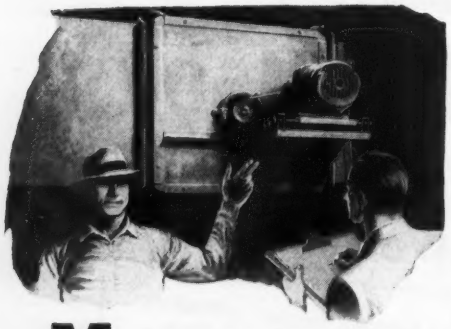

. . . and you rarely have to service it—never have to lubricate it—seldom give it any attention!

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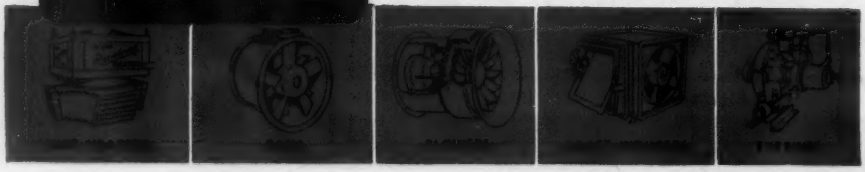

above 140°F as it is under a partial vacuum at all times and therefore its flash point temperature at atmosphere will be lowered.

The heating surface of the fueloil heater always will be hotter than the oil temperature and the oil in direct contact with the heating surface will be close to heating surface temperature. If electric heaters are used in suction lines they should be of the low density type to guard against the vaporization of the oil. Oil vapor in the suction line will materially reduce the capacity of the oil pump and cause unsatisfactory burner operation. The heating of the oil above 140°F, if required for satisfactory burning, should be done on the discharge side of the fueloil circulating pump with the oil under pressure required to prevent its vaporizing.

Final heating Step

The third step in the handling of viscous fuels involves the final heating step to reduce the viscosity of the oil to that required for best atomization and burning. Each burner manufacturer will advise as to the limits of viscosity for this process, but it is essential that the designer provide means for final heating of the oil to arrive at this recommended viscosity. Knowing the viscosity of any particular oil as provided by the fueloil supplier, the Viscosity-Temperature Chart, Diag. 1, is indispensable in determining the final burning temperature. The methods of piping and heating for this third step always are recommended by the burner manufacturer and often are included partly in the design of the burner itself.

Consult Diag. 6 for best burning range for rotary burners of modern design.

The oil storage and transportation problems, however, are generally the problems of the designer or installer, and the data in this article are provided for his guidance.

in burners as in racing

. . . everyone follows the winner!

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- **Proportioned oil-air mixed inside the nozzle gives perfect atomization of light or heavy oil at low, medium or high fire.**
- **Oil is metered *exactly* — by a metering pump.**
- **Burner delays starting until oil at the nozzle is hot enough for electric ignition.**
- **Automatic pressure lubrication.**
- **Low-fire start.**
- **Flame size quickly set for both low and high fire at maximum efficiency.**
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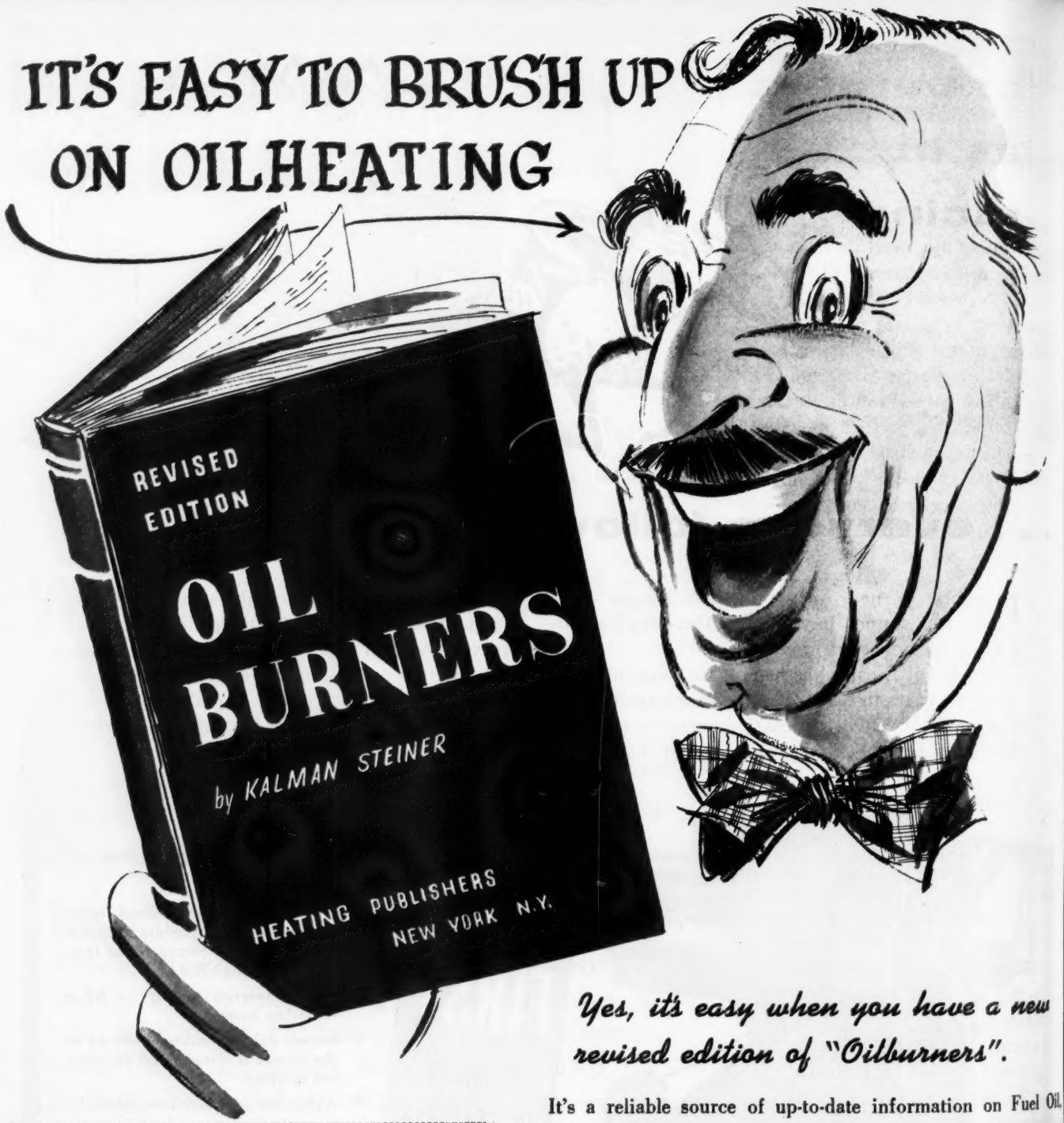

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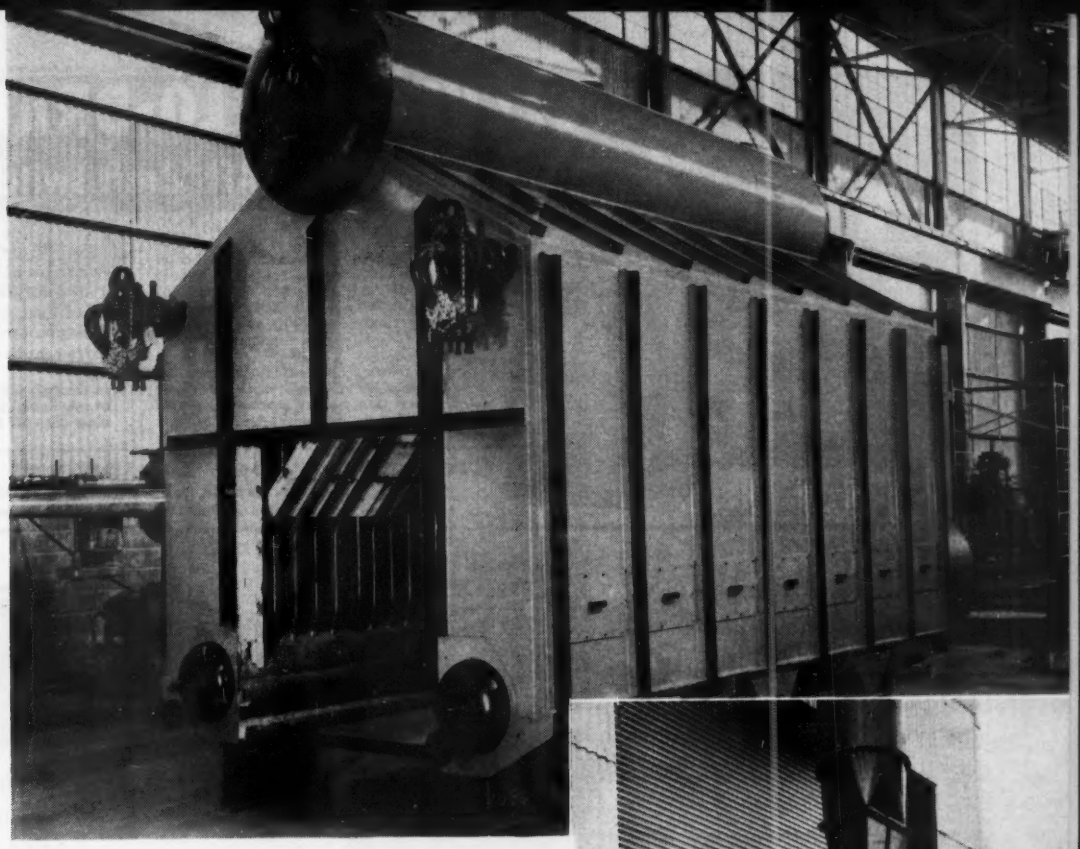
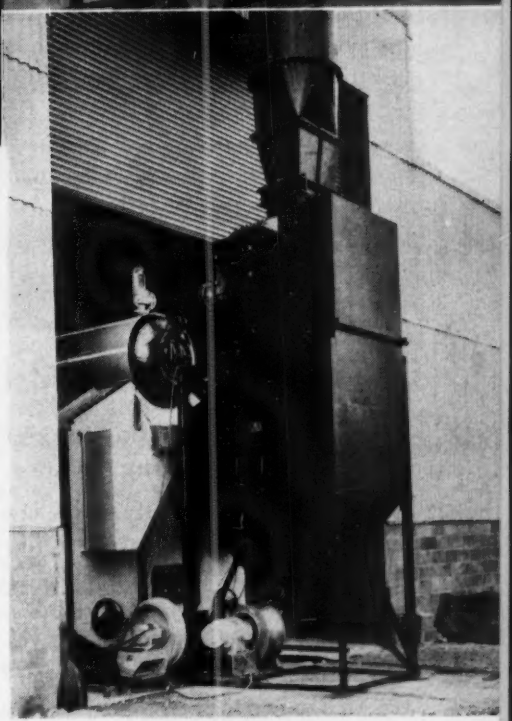
Superior builds Navy prototype packaged Boiler

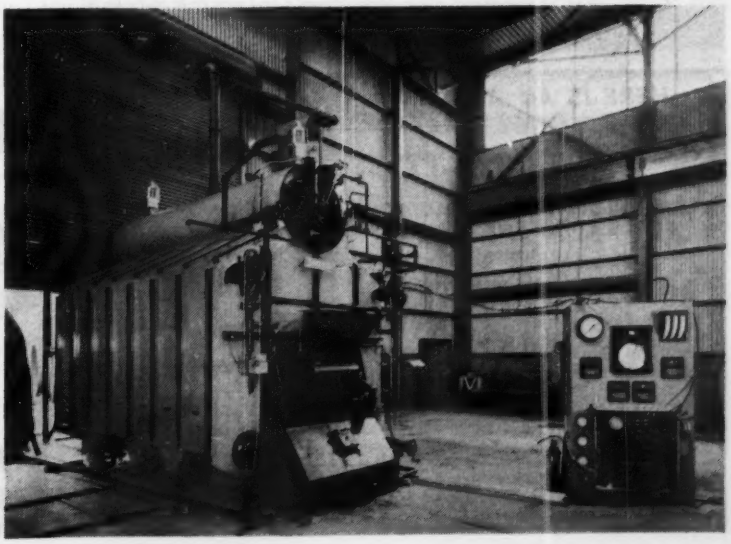


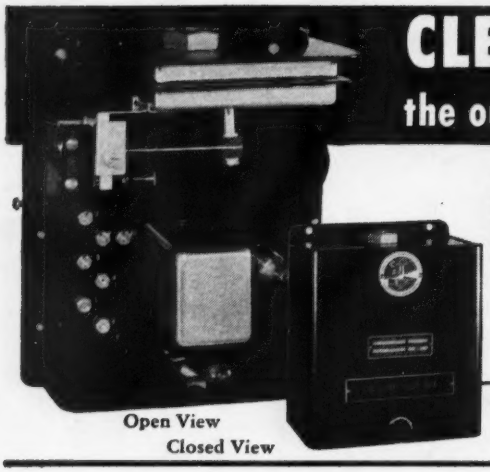


LEADING BOILER MANUFACTURERS under the direction of Leroy F. Deming, Chief of the Power Generation, The U. S. Navy's Bureau of Yards and Docks, contributed to the design of the packaged boiler shown on this page.

This prototype unit was built by Superior Combustion Industries, Inc., New York, for field assembly at Klamath Falls, Ore. The boiler is supplied with a complete control panel including all piping and wiring necessary for fully automatic firing with any fuel. Change over from one fuel to another can be done in less than 60 hours.

According to Deming the Navy is the largest user of land based boilers, and he supervised studies covering 10 different designs of naval installations to determine the requirements for a standardized boiler. Deming pointed out that these requirements are no different than those of private industry, and a reduction in boiler procurement costs for the Navy Department should result in similar economies for other purchasers.





Open View
Closed View

CLEVELAND LO-DRAFT CUT-OFF

the original "FAIL-SAFE" draft switch with TIME DELAY

CFE Lo-Draft Cut-Off is designed to prevent explosions or damage to boiler by automatically cutting off burner when draft fails, whether induced or natural. Cut-off point is adjustable over complete range. Models available for positive (pressure) or negative (draft) operation.

Inquire about specially engineered models to meet unusual requirements including pre-purge, post-purge and other safety features—write to:

Check these Lo-Draft Cut-Off Features:

- **Adjustable cut-off point**
- **Time delay prevents shut down from "puffs"**
- **Signal light shows low draft condition**
- **Terminals for alarm or remote signal**
- **Extra-sensitive, positive on-off switch**
- **Absolutely fail safe—Failure of any component immediately cuts off burner**

Cleveland Fuel Equipment Company
1109 Brookpark Road, Cleveland 9, Ohio
In Canada, write to: Ontor Laboratories Inc., 111 Tycos Drive, Toronto

New Cleaver-Brooks Corp. organized to expedite Marketing

CLEAVER-BROOKS Western Hemisphere Ltd. has been established to expedite marketing of products made by Cleaver-Brooks Co., Milwaukee, Wis., in the western hemisphere.

The new corporation will emphasize improved service to the Canadian, South America and West Indies' markets. R. P. Honnold, vice-president in charge of the corporation, will continue as export manager of the parent company.

❖

Comm. Burner Shipments show Decrease during 1955

YEAR-END FIGURES recently released by the Market Research Department, Oil-Heat Institute of America, show a decrease of 7½% from 1954 in the shipment of commercial-industrial oilburners during 1955. A total of 34,957 reported units were shipped; to this can be added 2,500 unreported package boiler units bringing the total to an estimated 38,357.

Larger capacity rotaries (over 30 gph capacity) showed an improvement of 17%. Baby size rotaries commonly used in bake ovens dropped from 2,000 in 1954 to 1,400 in 1955.

A breakdown of December shipments is as follows:

	Oil burners	*Oil-Gas Burners*
HORIZONTAL ROTARIES		
2½ and under	48	0
Over 2½ to 8	41	2
Over 8 to 30	446	5
Over 30 to 100	294	19
Over 100	19	2
Total Shipments	848	28
GUN BURNERS		
Over 5 to 30	1,771	68
Over 30	92	36
Total Shipments	1,863	104
MECH. ATOMIZING		
30 and over	24	15
TOTAL, ALL TYPES	2,735	147

❖

Honeywell Booklet describes Flexibility of Electronics

THE FLEXIBILITY of electronic temperature controls used with commercial heating and airconditioning installations is explained in a booklet being distributed by the Commercial Division, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

COMMERCIAL & INDUSTRIAL oilburning

The publication attempts to fill the gap between the theory of electronic bridge circuits and specific control layouts and circuit diagrams.

It discusses the wide choice of methods of thermostat operation, including remote adjustment from a single central panel; convenient, efficient and economical sequencing of heating and airconditioning equipment operation.

❖

James F. McEntee, New York City, will represent the Mammoth Furnace Co., St. Paul, Minn., in northeastern New Jersey and part of metropolitan New York.

HERE IS AN AMAZING NEW MONEY MAKER:

DESLUDGIT

LOW PRICED FUEL OIL ADDITIVE FOR #4, #5 AND #6 OILS.

GUARANTEED ON

30 DAY FREE TRIAL

- **dissolves sludge**
- **breaks oil-water gels**
- **made specifically for heavy oils**
- **non-corrosive, non-explosive**
- **certified for use aboard ships by U.S.C.G.**
- **keeps fuel system clean from tank to chimney**

Request free test kit pictured above, and detailed brochure, on your letterhead.

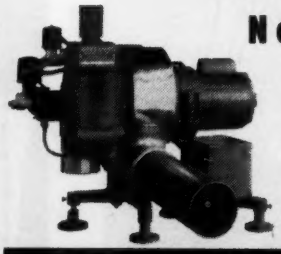
Write to | **STEWART-HALL CHEMICAL CORP. Mount Vernon, New York**

NEW IMPROVED

RAYFIELD-STAFFCO

AUTOMATIC

No. 5 OIL BURNERS



REDUCE HEATING COSTS . . . INCREASE YOUR PROFITS

Burn No. 5 heavy fuel oil. Self-contained, all electric. Self-lubricating. Many new exclusive features. From a bungalow to a skyscraper . . . there's a dependable Rayfield-Staffco Oil Burner to handle your heating job. Write for full details.

RAYFIELD-STAFFCO BURNER CO.
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Here's a Book on

COMMERCIAL & INDUSTRIAL oilburning

to help you:

- ***Installing big boilers***
- ***New Techniques for heavy oil***
- ***Oil preheating problems***

The book, "COMMERCIAL-INDUSTRIAL OILBURNING," contains a series of articles on the subjects that have appeared in the magazine FUELOIL & OIL HEAT, including 12 features by Kalman Steiner on the "Design of the industrial installation."

This series begins with a brief "Introduction to industrial Oilburning" and then discusses in succession, computing boiler load and selecting burner size, combustion volume, boiler types and firebox construction, water tube boilers, selection of burner and accessory equipment, boiler settings, function and operation of primary controls, other controls, function and application of fueloil preheaters. Plus other outstanding features.

This 80-page book is available with self-cover, 8½ x 11 page size, profusely illustrated with photographs, charts and diagrams. Price: $2.00. Postpaid. Please mail remittance with order.

•

Heating Publishers, Inc.

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New York 36, New York

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- Accurate, dependable readings — operates on principle of hydrostatic pressure.
- Easy to install—on tanks above or below the ground and up to ¼ of a mile away.
- For tanks 20" to 50 ft. deep.

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Solve Bulk Tank Preheating.. ..REMPE "HOT SPOT" PREHEATER

Heats heavy oils in bulk storage to proper flow temperature before they enter the suction line—takes load off suction pumps. Heating medium—steam or hot water. Construction—all steel—connections for any diameter tank.

Write for bulletin

HEAT TRANSFER EQUIPMENT REMPE CO. Founded 1890

REMPE COMPANY

336 N. Sacramento Blvd. Chicago 12, Ill.

Preferred Anti-Syphon Valves *Meet Every Code*

Non-Adjustable—Angle Type for convenient installation. Heavy Bronze Construction. Approved by Underwriters' Labs., Inc.

TYPE A—1¼" to 3". Maximum capacity to 1000 G.P.H., with #5 and #6 oil.

TYPE B—¾" and 1". Maximum capacity to 100 G.P.H., for #1 to #5 oil.

TYPE C—⅜" and ½". Maximum capacity to 30 G.P.H. of #1 to #3 oil.

Write for Bulletin 1619

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ENGINEERED FOR SAFETY, ECONOMY AND YEARS OF SERVICE...

GABRIEL BOILERS are adaptable to all types of fuel • A.S.M.E. code constructed • National board registered • Modern welded X-ray construction • 3-300 HP, 15-225 lbs. working pressures.

STEEL BOILER INSTITUTE CAPACITY RATED
(Your assurance of reserve power)

Boiler sizes for all industries. Write for name and address of your nearest Gabriel Boiler dealer.

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1428 N.W. 14th AVENUE • PORTLAND 9, ORE.

BUILDERS OF FINE BOILERS

Readers' Problems

Q. Can you tell me what the probable vacuum reading would be under the following conditions?

Suction line 1¼" black pipe, clean, new and reamed. Bottom of fueloil storage tank 3' below pump. Total vise of pipe from within 6" of tank bottom, 10'. Elbows involved: Two-elbow swing plus five elbows. Total length of pipe from bottom of tank to gage past 1¼" check, two 1¼" gate valves and through large volume strainer: 27' underground and 27' inside boiler room. Oil temperature 65° F. Oil viscosity 195 sec. Saybolt at 100° F. Pump capacity 80 gph.

I keep being told it is a partly blocked line and I insist that it is a function of flow friction.

J. S. C., Falls Church, Va.

A. Several of the burner experts with whom we discussed your problem say they aim for maximum suction-line vacuum of 10" on jobs not involving high lift which necessarily corresponds to higher vacuum. Your installation certainly does not involve high lift. The 80 gph flow rate through the suction line is extremely low for the 1¼" line—domestic pressure burners having 70 gph pumps have been made. These considerations lead the experts, with whom we discussed your problem, to declare that certainly the vacuum developed by the pump on this installation should not exceed 10".

Field check-ups on installations somewhat similar to yours have been made. The normal vacuum-gage readings of these installations run from 4" to 7". Most of the gph pumping rates involved exceed yours greatly.

Different fueloils of the viscosity you give at 100° F. can have widely different viscosities at the 65° F. oil temperature you name . . . depending on the degree to which the different fueloils thicken when cooled from 100° F. to 65° F. That is just one of the factors that makes it impossible to engineer a precise answer to the problem as you state it. You can be reasonably certain the probable vacuum reading should not exceed 10".

Q. We are collecting data on fuel consumption before and after the installation of a night shut-down control system. Our information to date has been limited to our own jobs and we would like to broaden our scope. I understand there have been some impartial tests run in regards to this question and I am interested in learning what results were obtained.

L. U. J., Milwaukee, Wis.

A. No data on impartial tests, such as you mention, are on hand; if any arrive as the result of publication of

SAFETY SWITCH
THAT SHUTS OFF FUEL IF BLOWER FAILS

Protection for Oil Burners
•
Industrial Ovens
•
Power Gas Burners

WHAT IT DOES

The Dewey Safety Air-Flow Switch protects against opening of fuel valve until fan is up to speed.

Insures purging of furnace before fuel valve opens. Closes fuel valve if fan slows up or stops. Flashes danger signal if fan or fuel stops. Safeguards against danger from gas fuel failure when used with safety shut-off valve.

Thousands sold. Factory Mutual and Underwriters Laboratories Approved. Standard equipment on leading products. Write for prices and literature.

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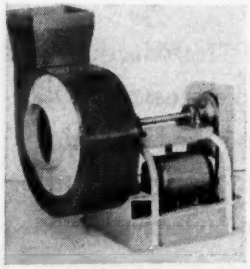
Dewey SAFETY AIRFLOW SWITCH

INDUCED DRAFT FANS by WHITTY



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—to Figure
—to Order
—to Install
—on Your Pocketbook

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FUELOIL & OIL HEAT
2 W. 45 St., New York 36, N. Y.

this question-and-answer, we will forward them to you.

Several dealers indicate that they tell homeowners that "fuel savings up to 15% often result from lowering temperatures at night." Seldom do the dealers guarantee such fuel savings. Several stress to homeowners that the drop in indoor temperatures for nights should be appreciable, 10°F. or greater, to gain maximum fuel savings. The temperature should be low for as many hours as is feasible; the setting of the thermostat should be reduced some time before bedtime, perhaps 30 minutes before, and the switch to daytime temperature should be made 30 or 40 minutes before getting-up time.

In commercial-industrial buildings the drop in fuel consumption has been as much as 30%, according to reported field experiences. This occurred in large buildings where workers are on a 40-hour week basis, where night temperatures were only high enough to prevent freezing of water piping and sprinkler systems, and where temperatures were reduced for weekends and holidays as well as nights. The most recent article published in FUELOIL & OIL HEAT on time switches was in the January 1955 issue.

Q. On p. 51 of your book, "Fundamentals of Oilburner Controls," appears a Simpson 260 electrical testing instrument, described as useful to burner experts in dozens of ways. Please tell me who makes it.

M. K., Brooklyn, N. Y.

A. Simpson Electric Company, 5200 W. Kinzie St., Chicago 44, Ill. An illustrated brochure on the instrument is available on request. However, the instrument should be purchased from your electrical jobber or a radio-television supply house.

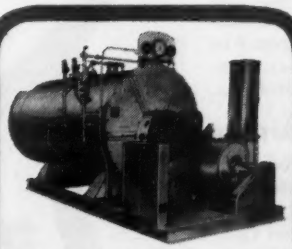
Indispensable for checking and servicing electronic controls, as was indicated in what you read about the instrument, an instrument of this type reads an extremely wide range of voltage, current, and resistance. On the one hand it can produce readings of millionths of amperes; on the other hand, it can read up to 5,000 volts, permitting its use to check the output voltage of oilburner ignition transformers.

THERMOPAK

That Can Help You Double Your Sales Volume

Here's another in Preferred's complete line of oil burning equipment. It offers you the greatest possibilities ever in sales volume and profit in the commercial and industrial oil burning field.

In the fully automatic Thermopak you sell a tested, factory-integrated combustion system for any steam boiler, complete with all controls and electrical wiring, which eliminates problems of combustion chamber work, separate wiring and piping. It requires only the simplest connection to fuel and power lines.



For new boiler rooms or for added steam capacity—your BEST bet is a Preferred Unit Steam Generator – BEST of all "packaged" boilers in design, construction and operating economy. Built in 19 sizes from 20 to 600 B.H.P. 15 to 250 p.s.i., for oil, gas or combination fuels; factory fire-tested before shipment. Get Bulletin 2000.

With the Thermopak you overcome the difficulties of complicated installation, limited experience or limited personnel for installation and service. And because of its unique design and secondary air preheating method, your customer is certain of higher combustion efficiency.

The Thermopak includes Preferred's famous Heavy Oil Rotary Oil Burner (or combination oil-gas burner); it can be installed in any fire- or water-tube boiler—new or old—of 20 to 525 B.H.P.

Use the Thermopak way to enter or expand your sales potential in the fast growing, heavy oil burning field. Write for Bulletin 185 to Dept. FO.

PREFERRED UTILITIES MANUFACTURING CORP.

1860 Broadway, New York 23, N. Y.

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T.M. REG. U.S. PAT. OFF.

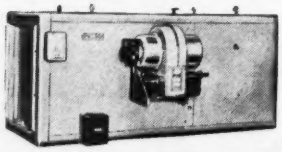
Here's a quick rundown on the great line of Petro oil heating and firing equipment

RESIDENTIAL OIL BURNER

A sturdy, precision-built pressure burner with an excellent record of fuel economy and service-free operation. Also available with flange mount. 0.6 to 3.5 gallons per hour.

LOWBOY AND HIGHBOY FURNACES

Wide range of sizes in lowboy and highboy models. Welded plate steel heat exchangers. Very fast heaters. Baked enamel finish. Adjustable speed blowers. Uses Petro oil burners.



HORIZONTAL FURNACES

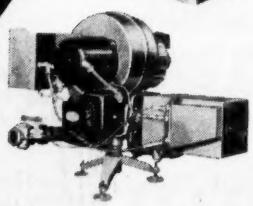
Compact size permits installation in attic, crawlspace, or can be suspended in basement or garage. Complete winter air conditioning unit. Reversible for easy installation.

OIL FIRED WATER HEATERS AND BOILERS

Complete line of automatic water heaters. Also boilers for all types of steam and hot water heating. Fire tube and water leg design for extra fast heating.

COMMERCIAL OIL BURNERS

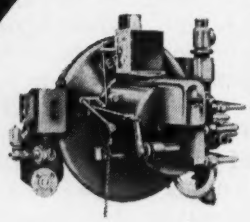
Pressure type burners of high efficiency and exceptional dependability, for No. 2 oil or lighter. 3 to 30 gallons per hour.



COMMERCIAL GAS-OIL BURNERS

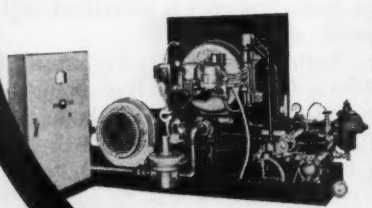
Switches fuels instantly. For No. 2 oil or lighter, 5 to 20 gallons per hour. Gas capacity, 500,000 to 3,000,000 Btu input.

ROTARY OIL BURNER FOR HEAVY OILS



The Petro Thermal Viscosity principle for heavy oil control enables this burner to operate with the high viscosity fuels (Nos. 5 and 6) with complete dependability. Capacities from 8 to 200 gallons per hour. Convertible to gas-oil firing.

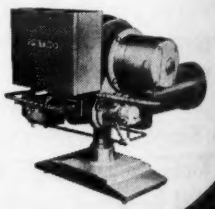
FORCED DRAFT BURNER



Complete combustion system, factory assembled and tested. Includes burner (gas, oil, or combination) forced draft system, wired and tested control panel, fuel system, all in a single unit. Up to 500 boiler horsepower.

LOW PRESSURE BURNER FOR HEAVY OILS

No other burner like it. Advantages: fires any oil, No. 5 or lighter, full modulating flame. Capacity 3 to 30 gallons per hour.



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(In Canada, 2231 Bloor St. W., Toronto, Ontario)

Please send information on Petro dealership opportunities.

Name_____

Address_____

City_____ State_____

Industry Groups

(*Begins on page 46*)

19 Heating Wholesalers attend M-H sales training Institute

AN INTENSIVE five-day sales training institute was held for the National Heating and Air Conditioning Wholesalers Association by the Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Nineteen owners or sales managers attended the course designed to teach executives how to apply basic sales principles to their own sales problems.

Materials were provided for those attending so that the information could be passed along to sales forces. The course utilized techniques developed by Honeywell for its own sales engineers.

Northwest Jobbers elect Nelson as President during Convention

DURING THE RECENT convention held by the Northwest Petroleum Association in Minneapolis, Gene Nelson was elected president; John Kuether, vice-president; N. R. Distel, treasurer; and H. F. Horning, executive secretary.

Minnesota directors elected for three year terms are: Fred Meyer, Ralph Dahlstrom, Leonard Sweeney, E. H. Kopplin and Archie Eagles. North Dakota directors: Ross Page, John Decker, A. J. Nelson and R. H. Tallman. Twin City directors: Craig Shaver, Dick Hassett and Jerry Johnson.

The Association has scheduled its summer conference for June 25-26 at the Edgewater Beach Hotel, Detroit Lakes, Minn. The next winter convention will be at the Nicollet Hotel, January 23-24, 1957.

API Booklet lists Materials for training truck Drivers

A FOLDER outlining materials currently available for training drivers engaged in handling, transport, and delivery of petroleum products has been released by the Marketing Division, American Petroleum Association.

According to A. J. Rumoshosky, marketing division director, the folder suggests the scope of a tank-truck driver training program, and how the marketers can get help in building their own driver training course.

Copies of the folder which was prepared by the Personnel Training Committee under the chairmanship of Frank R. Markley, Sun Oil Co., are available free from the API Marketing Division, 50 West 50th St., New York 20, N. Y.

Sales, Service and Deliveries discussed by Massachusetts OHA

A PANEL made up of members and moderated by Harold Davies, George W. Pickering Co., discussed facets of the oilheating business at the February 14 meeting of the Massachusetts Oil Heating Association, Inc., in Boston.

Hugh McKee, Wharf Co., talked on "Oilburner service as a sales Tool." Thomas Scott, Buckley & Scott, discussed "Selling our Products and our Industry." "Efficient automatic fueloil Deliveries" was the topic of John Stevens, Booma-Breed Co.

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Klemm FUEL OIL FILTERS

FF-530V (Metal Bowl with Shut-Off Valve)

FF-430G (Glass Bowl)

CHEMISTONE ELEMENT . . . True Filter, not a strainer; exclusive with Klemm.

- MODELS AVAILABLE FOR EVERY HEATING APPLICATION
- CHOICE OF GLASS OR METAL BOWLS
- BUILT-IN SHUT-OFF VALVES AVAILABLE
- EXCLUSIVE CHEMISTONE FILTER ELEMENTS

No matter what kind of an oil burning installation you're selling or servicing, there's a time-proved, customer-satisfying Klemm Fuel Oil Filter to keep it running . . . and running right. That's why it pays to insist on genuine Klemm Filters — "Millions Since 1932."

UL APPROVED MODELS AVAILABLE

Klemm PRODUCTS

DIVISION OF KLEMM AUTOMOTIVE PRODUCTS COMPANY

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EXPORT: Guiterman Co., Inc., New York 4 • CANADA: Elgee, Ltd., Toronto

Luxaire® YEAR 'ROUND AIR CONDITIONING

● Sound sales judgement is on your side, when you install the Luxaire complete Year 'Round Air Conditioning Unit.

When you install it as a complete cooling and heating package, you furnish both the heating plant and the cooling section in a single, compact cabinet that requires less floor space than many standard furnaces. You make but one installation, which provides balanced distribution of both cooling and heating from the same, centrally located unit. Installation is easier and less costly, because you use the factory engineered, complete Luxaire Air Conditioning Unit.

Many Luxaire Year 'Round Air Conditioners are installed without the cooling section, to be used for heating only, temporarily. Dealers making such sales find that they make more money than when they sell an ordinary furnace.

When you install a Luxaire Year 'Round Unit for heating only, you also provide yourself with the basis of an even more profitable sale of either the Air Cooled or Water Cooled Cooling Section, to be added later. Who, on a blistering hot, soaking humid day, can resist the desire to add the cooling section, right away . . . especially, if the empty cabinet space and properly sized ducts are already provided. With the Luxaire Year 'Round Unit installed for heating only, your Cooling Section sale is ready-made!

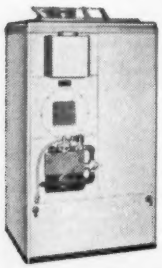
No new feature can match Luxaire Year 'Round Air Conditioning for improving the live-ability, the sale-ability, the value of a home. No line surpasses Luxaire in completeness, flexibility or competitive price.

Get aboard! See your Luxaire jobber now, for the most attractive year 'round profit plan in the business!

NOW!

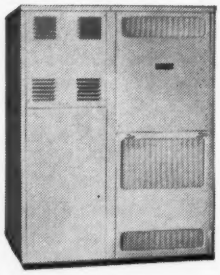
Enjoy Year 'Round Profits with the Complete Line of...

LUXAIRE YEAR 'ROUND AIR CONDITIONING UNITS

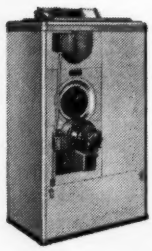


Upflow Year 'Round Unit with Gas Burner installed: 140,000 Btu Input with 3 Ton Air or Water Cooling; also with 100,000 Btu Input and 2 Ton Air or Water Cooling.

5 Ton Upflow Year 'Round Air Conditioner with 175,000 or 140,000 Btu Input Gas or Oil Heating and 5 Ton Water Cooling.



Upflow Year 'Round Unit with Oil Burner installed: 112,000 Btu at Bonnet with 3 Ton Air or Water Cooling; also with 84,000 Btu at Bonnet and 2 Ton Air or Water Cooling.



2, 3 and 5 Ton Complete Combination Heating and Cooling Units!

●

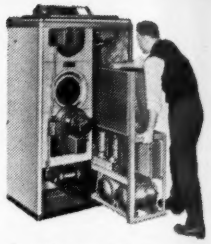
Basement or Utility Room and Counterflow Models!

●

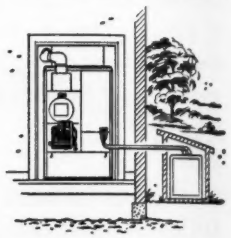
Both Air and Water Cooled Condensing Units!

●

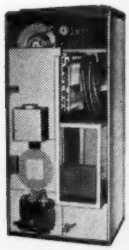
Burn Either Gas or Oil!



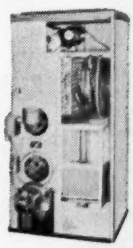
As illustrated, the Luxaire Water Cooled Circuit easily slides completely within the combination cabinet. Cooling Coil only of Air Cooled Circuit is installed inside the cabinet.



Year 'Round Unit with Air Cooling, showing Refrigerant Tubing leading from Cooling Coil inside Cabinet to remotely installed Air Cooled Condensing Unit.



Counterflow Year 'Round Unit with Gas Burner installed: 140,000 Btu Input with 3 Ton Air Cooling only; also with 100,000 Btu Input and 2 Ton Air or Water Cooling.



Counterflow Year 'Round Unit with Oil Burner installed: 112,000 Btu at Bonnet with 3 Ton Air Cooling; also with 84,000 Btu at Bonnet and 2 or 3 Ton Air or Water Cooling.

THE Luxaire C. A. OLSEN MANUFACTURING COMPANY . . ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

Oregon OHI holds Management Seminar at Multnomah College

AN EDUCATIONAL COURSE is underway at Multnomah College, Portland, Ore., sponsored by the Oil Heat Institute of Oregon. The Management Seminar is being held Tuesday evenings for 18 weeks, and began February 7.

The college staff has been supplemented by outside experts in business management. Tuition for the course is $30.

Rochester OHI elects Officers; Burkhardt is speaker at Meeting

J. W. DAVIS recently became president of the Oil Heat Institute of Rochester. C. Catlin was elected vice-president; and C. N. Miller and I. C. Koval were named treasurer and secretary respectively.

At the January meeting of the group Charles Burkhardt, National Secretary, Distribution Division, OHI, spoke on the educational program now in progress and planned for the future.

At the annual election the following directors joined the board: Dutch Davis, Lee Ward, Jack Foch, Bill Meier and Reg. McLaughlin.

New Jersey fueloil Distributors plan Convention, April 26-27

THE ANNUAL CONVENTION of the Fuel Oil Distributors Association of New Jersey will be held at the Berkeley-Carteret in Asbury Park, N. J., April 26 and 27.

The program calls for morning and afternoon business sessions, as well as an exhibition of fueloil and oilheating equipment.

Connecticut Convention will feature equipment Displays

THE ANNUAL CONVENTION of the Connecticut Petroleum Association, taking place March 15 at the Hotel Statler, Hartford, Conn., will feature a banquet and trade show, in addition to the annual business session.

Twenty-five display booths have been set aside for equipment displays, with the company names and products of space buyers to be included in the convention program, being prepared for distribution during the day.

Complete details on exhibits, advertising in the program and banquet arrangements can be secured from Larry Edwardson, executive secretary, CPA, P. O. Box 999, New Britain, Conn.

Barnebey speaks at Meeting of Refrigerating Engineers

THE SOUTHERN California Chapter of the American Society of Refrigerating Engineers heard Dr. O. L. Barnebey, Barnebey-Cheney Co., discuss air purification recently in Los Angeles.

He cited laboratory test results from actual installations indicating that activated charcoal will remove most irritants and contaminants from the air.

Bill Lang speaks at Meeting of Union County (N. J.) OHA

BILL LANG, Coastal Oil Co., discussed supplier-dealer problems at a recent meeting of the Union County Oil-Heat Association at Mountainside, N. J.

A demonstration of two separate methods of repairing oil tank leaks was given for the group at the yard of the Fuel Oil Supply Co., Cranford, N. J.

Fulflo Filters

BRING MORE PROFIT TO MORE DEALERS THAN ANY OTHER OIL BURNER FILTER.

GET YOUR SHARE OF THIS EASY EXTRA PROFIT!

COMMERCIAL FILTERS CORPORATION
MELROSE 76, MASSACHUSETTS

Arnston represents Oregon OHI on regional advisory Committee

CLIFF ARNSTON, Albina Fuel Co., Portland, will represent the Oil Heat Institute of Oregon on the Northwest Regional Advisory Committee.

The committee is made up of key industry leaders and is responsible for coordinating advertising efforts of the Oregon and Washington OHI chapters. The committee also works closely with the management of major oil companies in enlisting their support for advertising campaigns.

Arnston is also vice-president of the OHI of Oregon. He fills the vacancy created when Chuck Holloway resigned.

The advertising committee recently met and reviewed the campaign to date. Plans were formulated for some revision of future plans.

New Jersey Associations have Meetings; install new Officers

LOUIS MARKETTE was recently installed as president of the Middlesex County (N. J.) Fuel Dealers Association. Serving with him will be Bill McLaughlin, vice president and Lou Grzbek, secretary.

Reynolds Buckley acted as toastmaster and Sig Benedik, retiring president, received a plaque.

Speaking on employee benefit plans, Sidney Thompson addressed the Bergen Fuel Association, February 9, in Hackensack, N. J.

The North Jersey Oil Heating Association (Morris County) held its regular monthly meeting in Parsippany also on February 9.

Warm Air Association to have Chicago Meetings, Conference

THE SEMI-ANNUAL National Warm Air Heating and Airconditioning Association board of trustees and committee meetings will be held at the Edgewater Beach Hotel, Chicago, May 22 and 23. Following the meeting, will be a Technical Conference on May 24 and 25.

The purpose of the conference is to provide a forum for the more rapid release of Association-sponsored research; and to provide usable technical information to design and engineering personnel.

Among the presentations planned are: Physiological reactions to airconditioning; Balancing year 'round airconditioning systems in two-story residences; and Heating the split-level home.

F. J. Nunlist, Jr., Mueller Climatrol, is chairman of the Technical Conference Committee planning the meeting. Assisting him are K. T. Davis, Carrier Corp.; F. L. Meyer, The Meyer Furnace Co.; C. W. Nessell, Minneapolis - Honeywell Regulator Co.; and A. B. Newton, The Coleman Co., Inc.

North Carolina Jobbers plan Management Institute, April 9

THE DATES for the first Jobber Management Institute sponsored by the North Carolina Oil Jobbers Association have been set. The institute will be held at the University of North Carolina, Chapel Hill, April 9-14.

Charles G. Harris, Durham, is chairman of the Association's Educational Committee planning the course.

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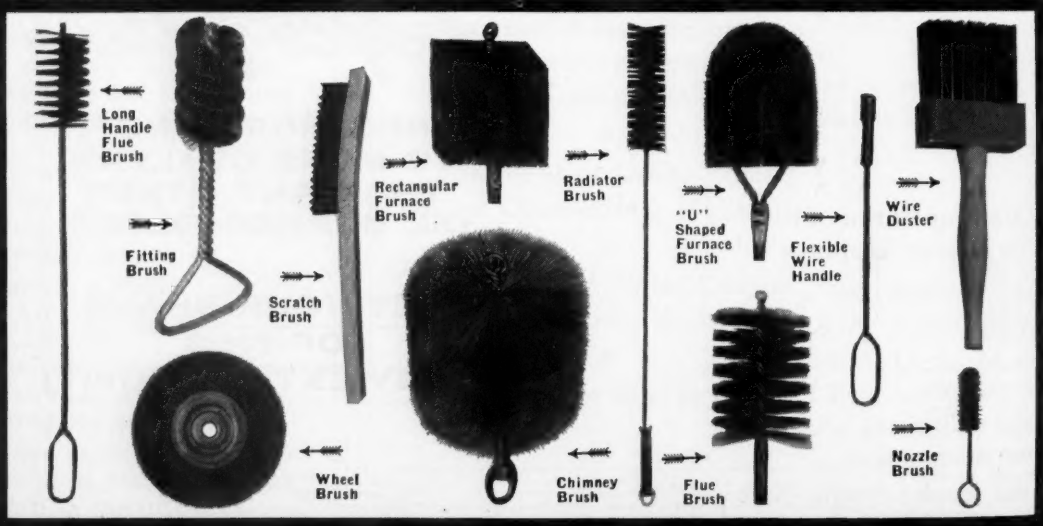
146 FULTON STREET • BROOKLYN 1, NEW YORK

for those with an eye for QUALITY
Ace Brushes for Plumbing and Heating industry



all your brushes from one dependable source
OUR FULLY ILLUSTRATED CATALOG ON REQUEST

A BRANDED PRODUCT IS EASIER TO REMEMBER ...Easier to Sell!

That's why it pays you to sell Mobilheat—America's famous fuel oil brand. It's the fuel oil known to thousands of oil burner owners all over the country.

In addition, Mobilheat is backed by one of the greatest names in the petroleum industry—Socony Mobil, with 90 years of oil marketing and merchandising experience. Make it warm for your customers—"hot" for your competition with Mobilheat!

SOCONY MOBIL OIL CO., INC., and Affiliates: MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

Raleigh, N. C., Desk & Derrick is formed; Officers elected

HAZEL HARDISON has been elected president of the recently formed Desk and Derrick Club of Raleigh, N. C. Officers who will serve with her are Christine Stillman, vice-president; Rachel Ward, recording secretary; Lillian Hudson, corresponding secretary; and Helen Register, treasurer.

Directors elected are: Peggy Arnaiz, Ruth Boswell, Dot Killibrew, Laura Morton and Drusilla Strickland. The club is open to women working in the oil and allied industries. This is the second chapter in North Carolina; Charlotte also has a club.

Purdue Warm Air Short Course Program set for February 29

THE SEVENTH ANNUAL Warm Air Heating Short Course at Purdue University, West Lafayette, Ind., will be held February 29 through March 3.

This basic course teaches the beginner to figure heat loss and to lay out and figure pipe sizes for small residential warm air systems. For the heating man the course offers a "brush up" in heating and an opportunity to learn cooling.

The advanced heating and cooling man can figure tougher jobs and learn new ways of doing old jobs. Many visual demonstrations will be held in the laboratory of Fundamental Heating and Cooling Principles.

This course is co-sponsored by the National Warm Air Heating and Air Conditioning Association and the University. The program will be similar to other short courses planned at Michigan State University, April 2-5; North Dakota State College, April 9-12; Iowa State College, April 16-19; Penn State University, March 28-30; Syracuse University, April 4-6; and Long Island T & A Institute, University of the State of New York, April 23.

Radio Communications discussed at L. I. Meeting

RADIO COMMUNICATIONS as applied to the fueloil industry were explained by representatives of Motorola Communications & Electronics, Inc., at the February 14 meeting of the Oil Heat Institute of Long Island, Inc.

The dinner meeting was held at the Long Island Agricultural & Technical Institute, Farmingdale, and Bob Scully, Scully Signal Co., also was a speaker.

All future meetings of the Association will be held on the second Tuesday of the month. New address of the group's headquarters after March 1 is 65 Greenwich St., Hempstead, N. Y.

Brooklyn fueloil Co-operative elects Officers for new Year

MICHAEL CHIONCHIO, Allied Fuel Oil Co., was elected president of the Fuel Oil Merchandising Co-operative, Inc., Brooklyn at a recent meeting.

Other newly elected officers are Arthur Saracino, Triangle Utilities, vice president; and Joseph Koplo, K&K Heating Corp., treasurer. Frank Fasano, Fasano Bros.; Paul Tremper, Sunshine Burner Corp.; Ben Leiberman, B & L Fuel Oil Co.; and Nat Ross, Pam Oil Co., are on the board of directors.

Harry Kerner was named executive secretary for the eighth consecutive year.

Sheared to Size—Less Scrap
Save Time—Cut Costs

The *right* steel makes all the difference in your oil heat combustion chambers. That's why it pays to use Ingersoll *heat-resisting stainless* steel!

It's easy to fabricate—because it has exceptional forming qualities.

It withstands high temperatures —because its analysis is correct.

It's uniform in quality—because Ingersoll specializes in producing this type of steel.

It comes to you sheared to your specified blank sizes, or multiples thereof, depending on size—so it saves you time, money and scrap.

Specify Ingersoll—and profit by the difference!

Write, wire or phone for details

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STEEL DIVISION
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Plant: New Castle, Indiana

High on Efficiency...Low on Cost

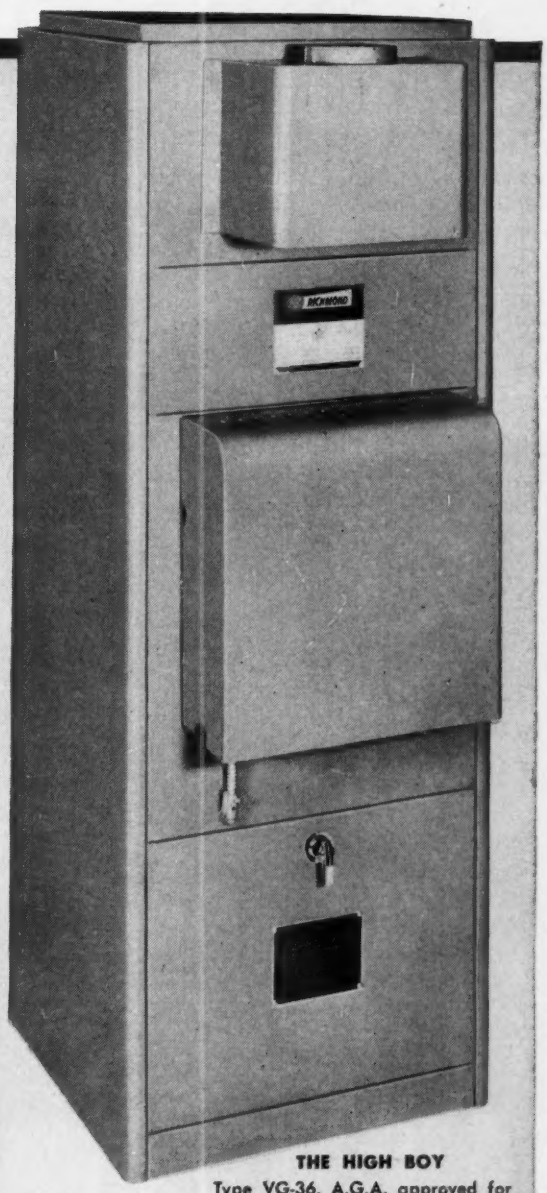
RICHMOND
BUDGETEERS

WINTER AIR CONDITIONERS

GAS-AND OIL-FIRED MODELS

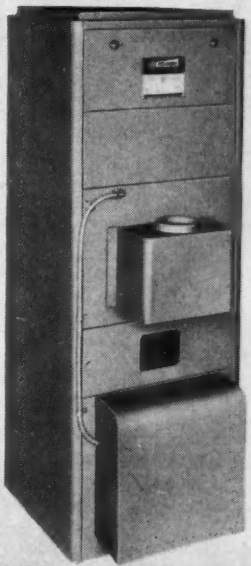
The "Four Budgeteers" offer the utmost in heating efficiency to meet today's demand for economical installations. Green enamel finishes are "Duridized" for maximum protection against rust and corrosion. All are insulated with heavy corrugated asbestos backed with aluminum foil. All feature effective spun glass filters, convenient service access.

WRITE FOR FREE TECHNICAL BULLETINS!



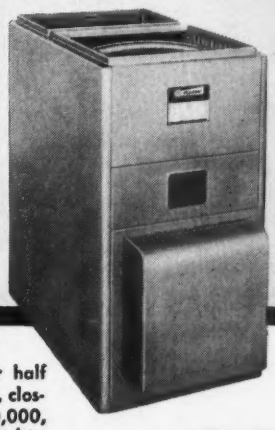
THE HIGH BOY

Type VG-36. A.G.A. approved for small spaces such as closets or utility rooms. Available with 70,000, 90,000 or 110,000 BTU/Hr. inputs. Type VO-71; 84,000 or 112,000 BTU/Hr. output at bonnet.



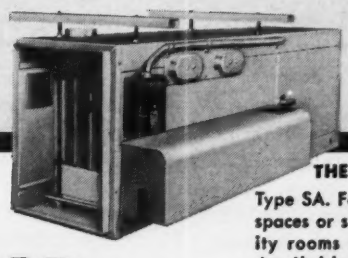
THE COUNTERFLOW

Type CG-46. For slab type homes or any perimeter system. Available with 70,000, 90,000 or 110,000 BTU/Hr. inputs. A.G.A. approved. Type CO-81; 84,000 to 112,000 BTU/Hr. output at bonnet.



THE LOW BOY

Type LG-16. For full or half basements or split levels, closets or utility rooms. 70,000, 90,000 or 110,000 BTU/Hr. inputs. A.G.A. approved. Type LO-61; 84,000 or 112,000 BTU/Hr. output at bonnet.



THE HORIZONTAL

Type SA. For attics or crawl spaces or suspension in utility rooms and basements. Available with 60,000, 80,000, 100,000, 120,000 or 140,000 BTU/Hr. inputs. A.G.A. approved.

RICHMOND
RADIATOR COMPANY
16 Pearl Street, Metuchen, N. J.

Look to *RICHMOND* for a complete line—automatic heating—central summer cooling units.

Residential Cooling discussed at Illinois Engineers Meeting

TECHNICAL INFORMATION on the application of cooling to residences using warm air and forced hot water heating systems was presented at a recent meeting of the Illinois Chapter, American Society of Heating and Air-Conditioning Engineers in Chicago.

Donald R. Bahnfleth, research staff, University of Illinois, reported on results of experiments using floor diffusers and high sidewall register systems of cooling in the research residences. In describing a slab installation he said that condensation on the slab was not noticed during any of the tests conducted throughout the summer.

The adaptation of forced hot water systems to forced chilled water systems was analyzed by Prof. Warren S. Harris, also University of Illinois. He discussed the problems involved in remodeling existing heat exchangers and installing cold water returns.

His remarks were based on tests conducted during the summers of 1953, '54 and '55. He suggested that cooling capacity of airconditioning units be carefully selected and that units be undersized rather than oversized as compared with the calculated cooling load for the best results.

All fuel oils are *not* alike – and today's fuel oil users know it. Only Sinclair Anti-Rust Fuel Oil gives the extra protection of RD-119® – *at no extra cost!*

Used regularly, this top-quality fuel oil protects against rust-clogged filters and burner nozzles – assuring greater customer satisfaction – and fewer service calls. Your benefit: good-will that comes from pleased customers, and greater profit that comes from lower service costs. For more customers, and more good-will, switch to Sinclair Anti-Rust Fuel Oil today. For more information, write to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N.Y.

SINCLAIR ANTI-RUST FUEL OIL

With RD-119®–*So Different it's Patented!*

North Carolina Oil Jobbers plan Convention aboard Ship

THE ANNUAL MEETING of the North Carolina Oil Jobbers Association will be a convention cruise to Havana and Nassau aboard the "Queen of Bermuda." The group sails from Norfolk, Va., Saturday, May 26 and returns a week later June 2.

Business sessions will be held during the week interspersed by entertainment and shore excursions. This is the second year that the Association has planned a cruise convention.

Any oil man is welcome to join the party, and the United States Travel Agency, Inc., 807 15th St., N.W., Washington 5, D. C., is in charge of reservations.

The ship will serve as a hotel for the group while in port. A full schedule has been arranged for the ladies who come along.

Officers elected by Dealers' Credit Association in Seattle

BEN A. VINCENT, Vincent Fuel Co., was elected president of the Oil Fuel Dealers' Credit Association of Seattle, Wash.

Serving with him will be Merrill E. Rutledge, Martin Fuel Co., as vice-president; and W. G. Marrington, Rossoe Manufacturing Co., treasurer. Robert G. Elmslie will continue as the association's manager.

National Petroleum Association schedules Meeting in Cleveland

THE SEMI-ANNUAL MEETING of the National Petroleum Association will be held at the Hotel Cleveland, Cleveland, O., April 18-20.

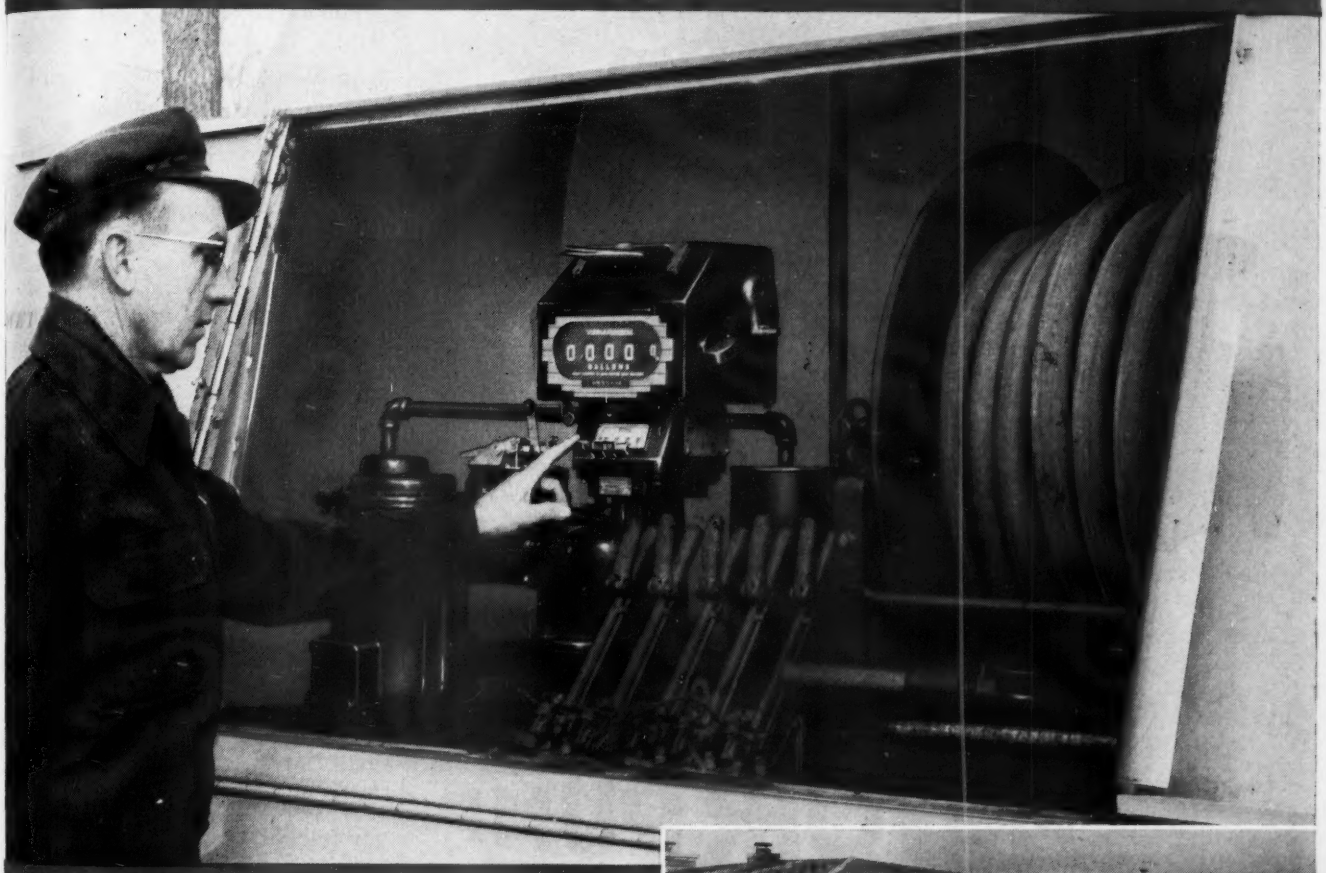
There will be an industrial relations session Wednesday afternoon; a traffic and transportation meeting Thursday morning; and a general session Thursday afternoon. The technical group will meet Friday.

The general session and all group meetings will be open to all who attend the meeting.

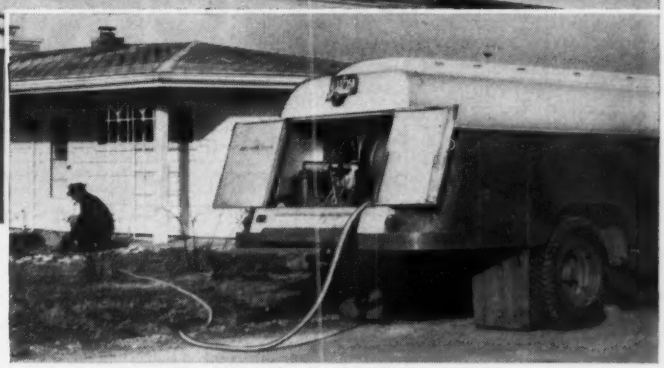
New QUALITY TOKHEIM MODEL 635

Tank Truck Meter

with pre-set flow control



controlled, 2-stage flow delivery cushions automatic shut-off!



Set gallonage in advance—you need never leave the nozzle! Tokheim PRE-SET FLOW CONTROL does the rest! Stays on full flow longer—saves pumping time. Smoothly, automatically reduces to secondary flow of 11 g.p.m.—within three seconds of full delivery. Gently cushions stop—eliminates shock. Saves strain on pipe-fittings and meter—prolongs equipment life. Accurately records gallonage delivered. Ticket Printer optional. Especially designed for tank trucks, bulk plants, airports, industry. See your Tokheim representative or write factory for literature and prices on this new Model 635.

ALL THESE OUTSTANDING FEATURES!

- 40 g.p.m. capacity—11 g.p.m. in last 3 seconds.
- Pre-set flow control determines gallonage—frees operator—cushions shut-off.
- Standard 1½" flanged inlet, outlet, air separator and back-pressure valve.
- Same positive piston displacement-type measuring unit as in Tokheim Computer Pumps.
- Veeder-Root Register and Totalizer—exclusive, lever-type wheel settings.
- Air separator inlet and strainer are reversible.

General Products Division

TOKHEIM CORPORATION

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901

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Keep payloads moving faster . . . at less cost!

speed liquid handling with the

INGERSOLL-RAND

MOTORPUMP

Pumping costs go down—oil keeps on the move—payloads reach your customers with dependable regularity—when you put Ingersoll-Rand Motorpumps to work.

They're rugged and extra powerful for their compact size and stay on the job far longer without maintenance attention! Installation is easier because no special foundation or alignment is needed—they mount and operate in almost *any* position with equal efficiency.

Sizes from ¼ to 75 hp . . . 5 to 2800 gpm capacities. Straight centrifugal motorpumps as well as self-priming types handle practically all oil moving needs, faster and more profitably. Get the latest Motorpump catalog describing the full line or see your nearest Ingersoll-Rand Oil Equipment Jobber.

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Ingersoll-Rand

11 Broadway, New York 4, N.Y.

Northwest Petroleum Group plans Management Institute

A JOBBERS MANAGEMENT INSTITUTE will be held at Hamline University, St. Paul, Minn., under the sponsorship of the Northwest Petroleum Association on April 23-24.

Among those taking part are L. T. White, Cities Service; John Shields, John Wood Co.; and Dr. Paul Giddens, president of Hamline.

Some 40 jobbers can take the course; tuition is $35. Sheldon Smith is chairman of the Education Committee arranging the course.

Spring Convention is planned by Pennsylvania Association

THE SPRING CONVENTION of the Pennsylvania Petroleum Association, Inc., will be held at the Bedford Springs Hotel, Bedford, Pa., on April 29, 30 and May 1.

This will be the Association's Tenth Anniversary.

Oilheating promotion Campaign is planned in North Carolina

SEVERAL OLI JOBBERS and major oil company representatives met in Raleigh, N. C., recently to make plans for an oilheating promotion campaign.

Based on a survey by Oilheating Market Reports, New York, a decision was made to concentrate the campaign in nine key counties where 54% of all heating oils are sold in the state. A committee representing all marketing segments will administer the program.

Environmental Eqpt. Institute plans annual Meeting, April 19

THE SCIENCE SECTION of the Environmental Equipment Institute will have its second annual meeting at the Sheraton Hotel, Chicago, on April 19.

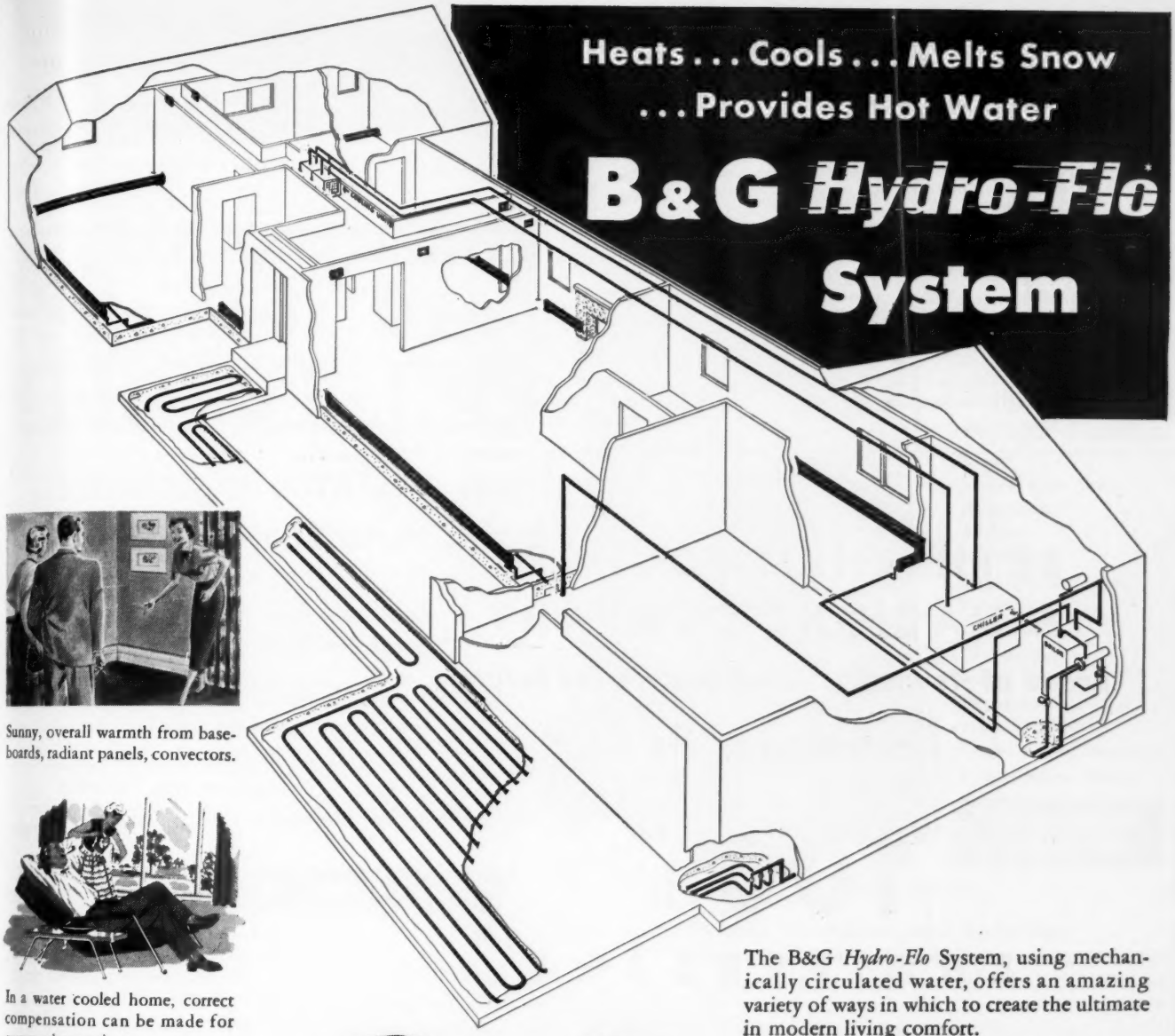
H. F. Sander, Vapor Heating Corp., is chairman of the meeting.

Industrial Contractors have new Offices in New York City

THE ASSOCIATION of Industrial Oil Burner Contractors, Inc., has moved its offices to 450 Seventh Ave., New York 1, N. Y.

Heats . . . Cools . . . Melts Snow . . . Provides Hot Water

B & G *Hydro-Flo* System



Sunny, overall warmth from baseboards, radiant panels, convectors.

In a water cooled home, correct compensation can be made for summer heat gain.

A virtually limitless supply of hot water for kitchen, laundry and bath.

Snow melting for relief from shoveling—safe driveways and sidewalks.

B & G BOOSTER

Noiselessly circulates water for heating and cooling the house and for snow melting panels. Known everywhere for quiet, dependable, long-lived operation.

The B&G *Hydro-Flo* System, using mechanically circulated water, offers an amazing variety of ways in which to create the ultimate in modern living comfort.

The sketch above illustrates the complete versatility of a water system. The heating in this home is with modern, inconspicuous baseboard panels. Cooling is achieved by circulating chilled water to a fan coil unit installed in a plenum formed by a dropped ceiling in the hall. Cool, de-humidified air is distributed through high grilles into the various rooms.

Snow melting coils under the sidewalk and driveway are circulated with an anti-freeze solution heated in an exchanger connected to the boiler. For domestic hot water, an indirect heater supplies the ample volumes demanded by modern labor-saving devices.

For the last word in year 'round comfort, convenience and health protection, backed by long-lived, trouble-free equipment, get the facts on the B&G *Hydro-Flo* System.

"Water is the most efficient and economical medium for conveying a BTU"

*Reg. U.S. Pat. Off.

BELL & GOSSETT COMPANY

Dept. EA-7, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong Ltd., 1400 O'Connor Drive, West Toronto

Calendar of coming Events

MARCH

7–8—Wisconsin Petroleum Assn. (annual meeting), Hotel Schroeder, Milwaukee.

13—Oil Trades Assn. of New York, Inc., Waldorf-Astoria, New York City.

13–14—Illinois Petroleum Marketers Assn. (annual meeting), Hotel Sherman, Chicago.

15—Annual convention, banquet and trade show, Connecticut Petroleum Association, Hotel Statler, Hartford, Conn.

15–17—Texas Oil Jobbers Assn. (annual meeting), Statler-Hilton Hotel, Dallas.

19–21—Nat'l Heating & Airconditioning Show, Automotive Bldg., Exposition Park, Toronto, Canada.

20–22—Ohio Petroleum Marketing Assn., Inc. (spring convention and exposition), Deshler-Hilton Hotel, Columbus.

30—Florida Petroleum Marketers Assn., Inc. (annual meeting), George Washington Hotel, Jacksonville.

APRIL

9–14—Jobber Management Institute, University of North Carolina, Chapel Hill, N. C.

12—New England Oil-Heat Institute (annual meeting), Somerset Hotel, Boston.

18–20—National Petroleum Association (semi-annual meeting), Cleveland Hotel, Cleveland, O.

19–20—Science Section of the Environmental Equipment Institute (annual meeting), Sheraton Hotel, Chicago.

25—Greater Philadelphia Fuel Conference (annual meeting), Warwick Hotel, Philadelphia, Pa.

26–27—Fuel Oil Distributors Association of New Jersey (annual convention), Berkeley Carteret Hotel, Asbury Park, N. J.

26—Virginia Petroleum Jobbers Association (annual meeting), John Marshall Hotel, Richmond, Va.

29–May 1—Independent Petroleum Association of America (semi-annual meeting), Statler Hotel, Los Angeles, Calif.

29–May 1—Pennsylvania Petroleum Assn. (Spring Convention), Bedford Springs Hotel, Bedford, Pa.

30–May 4—American Petroleum Institute (safety and fire protection mid-year meeting), Warwick Hotel, Philadelphia.

MAY

3–5—Spokane Convention, OHI of Washington, Spokane, Wash.

13–15—Empire State Petroleum Assn. (annual meeting), Statler Hotel, Buffalo, N. Y.

13–15—Pennsylvania Petroleum Assn., Bedford Springs Hotel, Bedford, Pa.

14–15—Steel Boiler Institute (annual meeting), Brown Hotel, Louisville, Ky.

14–16—Commercial-Industrial Oilburning and Equipment Conference, Michigan State University, E. Lansing, Mich.

15–16—Louisiana Oil Marketers Assn. (annual meeting), Roosevelt Hotel, New Orleans.

17–19—National Oil Jobbers Council (spring meeting), Atlanta Biltmore Hotel, Atlanta, Ga.

20–22—Tennessee Oil Men's Assn. (spring meeting), Hotel Lookout Mountain, Chattanooga, Tenn.

21–23—American Petroleum Institute, Division of Marketing (midyear meeting), Atlanta Biltmore Hotel, Atlanta, Ga.

22–25—National Warm Air Heating and Air Conditioning Assn. (Board of Directors, Committee Meetings, Technical Conference), Edgewater Beach Hotel, Chicago, Ill.

26–June 2—North Carolina Oil Jobbers Assn. (annual meeting), aboard the "Queen of Bermuda."

JUNE

4–8—National Fire Protection Association (annual meeting), Hotel Statler, Boston, Mass.

11–15—21st National Oil Heat and Airconditioning Exposition, Coliseum, New York City.

11–14—National Plumbing and Heating Exposition, Auditorium, Milwaukee, Wisc.

25–26—Northwest Petroleum Association. (Summer Conference), Edgewater Beach Hotel, Detroit Lakes, Minn.

BETHLEHEM FOUNDRY & MACHINE COMPANY

proud of its past . . . confident of the future

celebrates its

100th

ANNIVERSARY

ALTHOUGH it could be said that Bethlehem's history goes back to 1831, when a small foundry occupied the ground now covered by a corner of our foundry buildings; however, what is presently known as the Bethlehem Foundry & Machine Company, was established in 1856, when Franklin Pierce was president of the United States.

Our business existence has been interwoven with the friendly patronage of our customers, whom we have endeavored to serve always with care and consideration. Our incentive has been the trust and faith invested in us and the encouragement given us by thousands of friends.

From the very beginning, our founders established a pride in accomplishment and a rigid creed of respect for those whom we were to serve. That has been our guiding signpost toward "doing it better today than it was done yesterday."

Our appreciation toward those who have given us the privilege of doing business is deep and profound. We shall always strive to maintain, and if possible, to increase the high standard of quality for which Bethlehem products are noted.

Our splendid modern production facilities and engineering staff long versed in problems involving heat production and transfer, assure our customers of product dependability and will enable us to steadily increase our contribution to the heating industry during our next 100 years.

• DYNATHERM • CRUSADE-A-THERM • BETH-PAK Package Units • BETHLEHEM Conversion Burners

225 W. Second Street • Bethlehem, Penna.

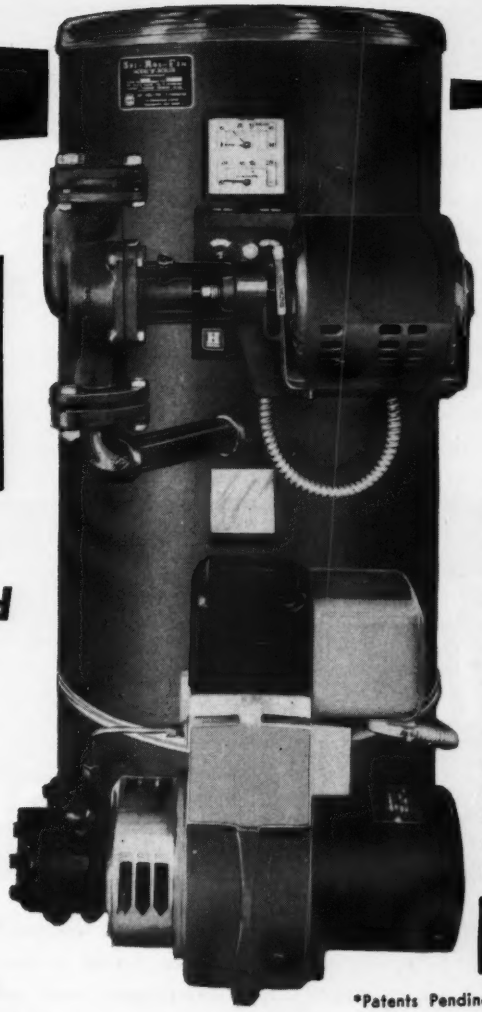
Here it is

COMPLETELY PACKAGED SPI-ROL-FIN BOILER-BURNER

designed with you the Heating Contractor in mind

FEATURING —

- **Quality Construction (A.S.M.E.)**
- **Light weight - easy handling**
- **Easy installation**
- **High output and efficiency**
- **All-copper tankless coil**
- **Compact design**
- **Neat appearance**
- **Components assembled and pre-wired**



GOLD CROWN

SERIES 600

OIL FIRED HOT WATER

Package includes:

Boiler
Combustion Chamber
Insulation
Jacket
Oil Burner
Tankless Coil
Circulator
Theraltimeter
Thermostat
Relief Valve
Drain Cock
Stack Control
Triple Acting Aquastat
Flow Control Valve

Complete package only **380 LBS.**

*Patents Pending

The only residential steel boiler featuring *extended surface heating areas* for most efficient operation.

and "Easy-to-Carry" packaging.

The photograph shows the easy two man handling. This is made possible by the design of the unit itself and the method of packaging. All crates are equipped with two heavy steel safety carrying handles (see photograph inset). They are bolted to the crate itself and also to two heavy duty steel straps, which pass under the full length of the crate. These handles make it possible for two men to pick-up, carry and place the complete unit where ever desired. No dollies, skids or block and tackle are needed.

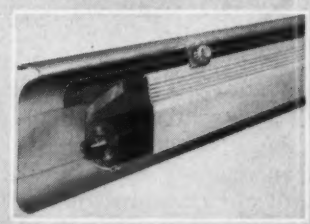
EXCLUSIVE

COMPLETE PACKAGE ONLY 380 LB.

Canadian Distributor
T. L. Livingston & Sons, Ltd.
73 Main Street, East
Hamilton, Ontario

Get on the band-wagon now — ask your supplier about the new SPI-ROL-FIN Boiler-Burner which when combined with SPI-ROL-FIN's Baseboard Radiation will make your next installation —

- ***EASIER***
- ***FASTER***
- ***MORE PROFITABLE TO YOU***



write, wire or phone for complete information!

SPI-ROL-FIN CORPORATION
133 GREENWOOD AVENUE • PEQUANNOCK, NEW JERSEY
Telephone: TERHUNE 5-3352

The next time--use a complete Spi-Rol-Fin Heating System.

Sales Appointments

Leen's Electric Motor Service, Brewer, Me., named stocking distributor for Asco electromagnetic controls in the state of Maine for Automatic Switch Co., Orange, N. J.

Sweiger-Davidson Co. appointed Chicago metropolitan area sales representative for heating and airconditioning equipment made by Union Asbestos & Rubber Co., Chicago.

Gregory-Salisbury and Co. and *Wayne G. Parker Co.* will represent the Intermatic time controls line for International Register Co., Chicago. Gregory-Salisbury has offices in Memphis, Tenn., and Little Rock, Ark. The Parker Co. is located in Jenks, Okla.

Moody-Price, Inc., Baton Rouge, La., named stocking distributor of Asco solenoid valves made by The Automatic Switch Co., Orange, N. J. Other stocking distributors named by Automatic Switch are *Control Specialty Corp.*, Houston, Texas; *Industrial Equipment Co. of Houston*, Houston; and *Dearing & Co.*, Youngstown, O. *Moorland Co.*, Amarillo, Texas, named a distributor.

M. A. Stewart & Sons, Ltd., North Vancouver, named sales representative for British Columbia by Kritzer Radiant Coils, Chicago, Ill. Other Canadian representatives named by Kritzer are *J. R. Stephenson, Ltd.*, Edmonton, Calgary, Regina and Winnipeg; *Glenco Products*, Toronto; *H. Avard Loomer & Co.*, Saint John and Halifax.

Kenneth C. Steeneck, now sales representative for Peerless Heater Co., Boyertown, Pa., in the New York area.

Michigan Heating Supply Co., Dearborn, Mich., named exclusive southeastern Michigan distributor of furnaces, boiler-burner units, conversion burners and summer airconditioners made by The Heil Co., Milwaukee.

T. J. Kasper to cover Metropolitan New York and Northern New Jersey for Perfection Industries Div., Hupp Corp., Cleveland, O.

William Schonfeld was appointed field representative in Michigan for Berger Furnace Corp., Pittsburgh. Other appointments by the company are H. G. Riley, Sr. and H. G. Riley, Jr., representatives in Indiana; and Harold D. Steffy, representative in Ohio.

William Sedlack, South Orange, N. J., to represent the Blue Circle heating line in northern New Jersey for Dunkirk Radiator Corp., Dunkirk, N. Y.

Adams Distributors, Providence, R. I., named room airconditioner distributor for York Corp., York, Pa., in the area.

Warren Klotzback named representative in Wisconsin and Minnesota for Thatcher Furnace Co., Garwood, N. J.

We can do the same for you!

We pride ourselves in having provided the answer to thousands of difficult thermostat jobs. The answer is simple. Install a Mercoid Sensatherm on any job where call-backs have plagued your service department. Whether it's heating or air conditioning, you'll find a Sensatherm for every need. Try one for that fussy job you've been putting off for the past two or three weeks—you'll be glad you did.

We don't use internal heaters, therefore, we eliminate special adjustments and settings such as required by ordinary types of thermostats.

Mercoid Sensatherms are equipped with the famous Mercoid Magnetic Mercury Switch—the switch that is backed by over thirty years of service.

If you have a thermostat problem we'll be glad to offer our recommendations.

Available For Various Operations

Single Stage
Two-Stage
Dual

WRITE FOR CATALOG NO. 856

THE MERCOID CORPORATION
4201 Belmont Ave., Chicago 41, Ill.
New York: 205 E. 42nd St. - Philadelphia: 3137 N. Broad St.

Sell custom-spray applications of dieldrin for home lawn pests

Now you can build bigger profits during the summer slack season—sell liquid fertilizer with dieldrin. Dieldrin added to fertilizer provides a double service for your customers—fertilizes and kills lawn-destroying insects at the same time. You get a double-profit opportunity.

Powerful dieldrin gets all the major insect pests both above and below the ground. Dieldrin is easy to use—it's simply mixed with fertilizer according to label instructions.

Dieldrin adds sales appeal to your liquid fertilizer product. In fact, customers already know that dieldrin is a top lawn pest control through national advertising in Better Homes & Gardens, Saturday Evening Post, Business Week, U. S. News, Fortune, Sunset, Practical Gardener. In addition to national advertising, Shell Chemical has available attention-getting, point-of-purchase material—yours for the asking.

Liquid dieldrin is available throughout the United States from well-known insecticide formulators. They'll be glad to give you complete technical information on dieldrin and its application.

This season build greater customer satisfaction and bigger profits as well—sell dieldrin in liquid fertilizer.

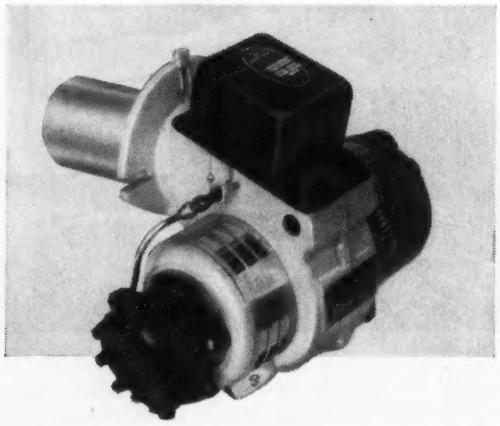
SHELL CHEMICAL CORPORATION

AGRICULTURAL CHEMICALS DIVISION

460 Park Avenue, New York 22, New York

SHELL

Meriting trust



Nu-Way oil burners

Meriting trust. That's how Webster defines "dependability." That's how customers describe Nu-Way Burners. Dependable components are used throughout, production run after production run.

Dependable motors. Dependable transformers. Dependable pumps. Every purchased part is built by suppliers of known quality reputations. No substitutes. Only the finest materials. In fact, some people think we carry this fanaticism about quality too far. Maybe we do. All we know is — our customers seem to like this "obsession" we have. They know they can trust Nu-Way to build burners that won't let them, or their customers, down. That is the basic fact to remember about Nu-Way Burners — they're dependable. They **merit your trust.** Nu-Way Corporation, Dept. FO-36, Rock Island, Illinois.

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 134 to FUELOIL & OIL HEAT, *2 West 45 St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

Ever-Tite straight-through Swivel features pull-proof Connections

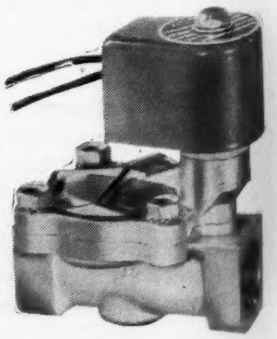
PULL-PROOF CONNECTIONS are a feature of Ever-Tite's No. 2 straight-through swivel, designed for users of liquid-dispensing nozzles, fueling hose nozzles and hose lines. Under pulling stresses the swivel tail and body hold together firmly, with the swivel action serving to prevent kinking, twisting or tension, which can be caused by a rotary motion. Tightness is assured by a machined seal and gasket.

Made by: Ever-Tite Coupling Co., 254 West 54th St., New York 19, N. Y.

Circle E1 on coupon, page 134

General purpose, shut-off solenoid Valve is made by Automatic Switch

AUTOMATIC SWITCH has introduced a ¾" general purpose two-way solenoid valve with a full area port. It has a self-contained, internal pilot and a forged brass body, bonnet and Hycar diaphragm. Can be mounted in any position.



It has three operating parts —a stainless steel core and spring and Hycar diaphragm. Packless construction is used. Will handle up to 125 psi. Available with either pressed steel, watertight, or explosion-proof solenoid enclosure.

Made by: Automatic Switch Co., 391 Lakeside Ave., Orange, N. J.

Circle E2 on coupon, page 134

What to look for in a circulator

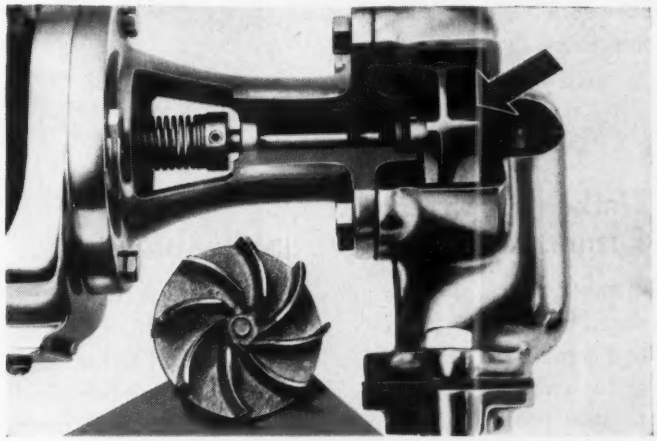
Taco

TACO HEATERS INCORPORATED
1160 Cranston St., Cranston 9, R. I.

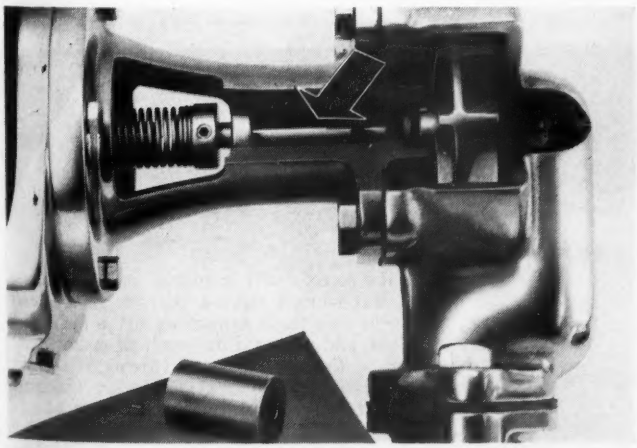
Corporate Office | 342 Madison Avenue, New York 17, New York

In Canada | Taco Heaters of Canada, Ltd., 4 Gilead Place, Toronto 2

EXTRA LARGE AND QUIET OPERATING MOTOR

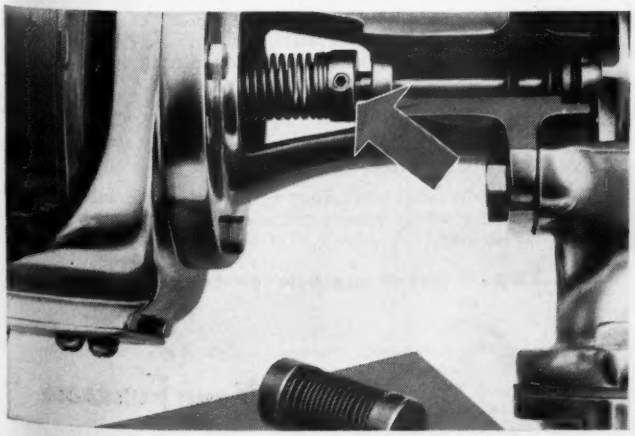


ONE-PIECE, LIFELONG IMPELLER WITH STAINLESS STEEL SHAFT

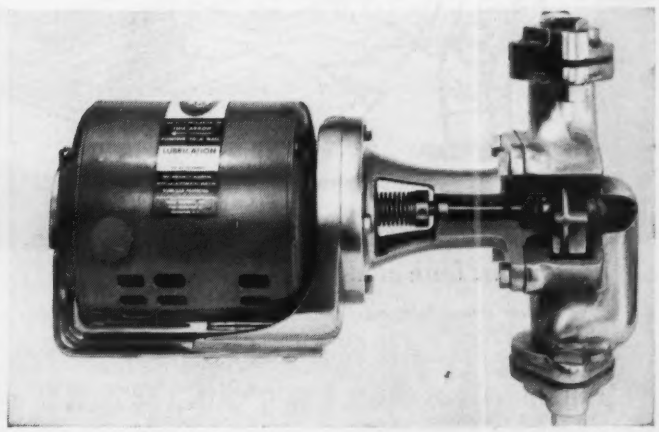


POROUS BRONZE BEARING

TWO-PIECE, EASILY REPLACED SEALS



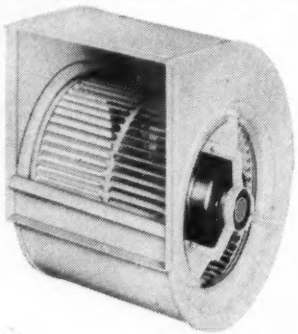
SPECIALLY DESIGNED, SAFE DRIVE COUPLING



YOU'LL FIND ALL IN TACO . . . THE POWER-PACKED CIRCULATOR YOU CAN DEPEND ON!

Utility Fan Corp. has direct drive Blowers for heating Manufacturers

A SILENT, direct drive blower is available to manufacturers of heating, cooling and ventilating equipment from the Utility Fan Corp. Called the "Big Boy" the new blower has an air flow capacity great enough to handle up to a 125,000 Btu, 3-ton heating-cooling combination.



It delivers approximately 1,400 to 1,500 cfm at a static pressure of 0.80" WG, with low outlet velocity. It is speed controlled by choke coil or reactor.

Made by: Utility Fan Corp., Los Angeles, Calif.

Circle E3 on coupon, page 134

Timken's conversion type pressure Burner has .75 to 3.0 gph Capacity

A NEW CONVERSION type pressure oilburner has been introduced by Timken. It has a capacity range of .75 to 3.0 gph and is called OCO-21. The air deflector is scored and marked to cut away to proper size. Two turbulators are furnished to give proper mixing action for the size nozzle used.

Has one piece base and an electric connection box integral with the fan housing. Has two stage air adjustor to give more readily adjustable air opening. Has one piece cast aluminum housing and a totally enclosed motor. The hinged transformer opens to a wide angle to allow the entire inside of the burner to be removed easily.

Made by: Timken Silent Division, Oakmont, Pa.

Circle E4 on coupon, page 134

Ace adds long Handle boiler Brush with rod lengthening Attachment

AN ANNOUNCEMENT of a long handled boiler tube cleaning brush has been made by Ace. Constructed of round steel wire or fibre mixture in 1", 2", 3" and 4" diameters, the brush has a regulation 3 ft. handle. A rod attachment is available for lengthening the handle. The brush also can be supplied in other specified diameters or handle lengths.

Rectangular and square shapes of the new brush can be furnished, is one of a complete line Ace makes.

Made by: Ace Wire Brush Co., 146 Fulton St., Brooklyn 1, N. Y.

Circle E5 on coupon. page 134

SAY J. P., YOU SELL TWICE AS MANY FURNACES AND AIR CONDITIONERS AS ANYBODY ELSE ...HOW DO YOU DO IT?

Well, Sam . . . . . I'll Tell You . . .

"Sure, the secret's still in makin' calls and I make 'em, lots of 'em. But when I make a call, *the folks already know me* . . . they've seen these Armstrong ads in the leading consumer magazines, and what a difference that makes! Why, I even take a copy of the latest issue of Parents, Household, House Beautiful, Living, or one of the other magazines Armstrong advertises in, and show the Armstrong ad . . . *my* ad . . . to the prospect. This way I never worry about a cold call, Armstrong's already softened 'em up! And that's not all. Armstrong's "prospect-catchin'" promotional material makes it even easier to sell furnaces and air conditioners. Cold calls? Bosh! I build a fire under 'em with all this Armstrong ammunition, *sales* ammunition. And Sam, when you use these and all the other Armstrong extras, you just can't help makin' dough in this business."

"Say, I'm with you! I'm gonna call that Armstrong wholesaler right away!"

And why don't you? Your Armstrong wholesaler can give you the whole money-making Armstrong story. Call or write today!

Yep, it sure *is* nice bein' an Armstrong dealer.

just look at all these advantages . . .

* A complete line of furnaces and air conditioners
* Wholesalers who do your stocking for you
* National advertising in top consumer magazines
* Prospect-catching promotional material
* Service and product meetings in the field
* Dealers heating and air conditioning schools at the factory
* And you're selling quality equipment

YOUR ARMSTRONG WHOLESALER ready to assist you . . all-ways

Armstrong Furnaces AND AIR CONDITIONERS COLUMBUS 8, OHIO

Let's look inside

WEBSTER'S NEW SERIES 8000 FUEL-UNIT

SEE THE REASONS FOR · · · **POSITIVE PRESSURE REGULATION, EASY ADJUSTMENT** with new piston type construction and exterior pressure adjusting screw, readily accessible without dismantling · **QUICK OPENING** because of larger diameter piston · **SHARP, CLEAN CUT OFF; POSITIVE SEAL** with new coined steel outlet seat · **NO STICKING, LESS WEAR OR CORROSION** because of hard chrome finish.

These are only a few of the features of WEBSTER'S completely redesigned new Series 8000 Units. Get the complete story. Write today for Bulletin A8A2.

Similar fuel-units are made for sale in Canada by Canadian Acme Screw & Gear, Ltd., of Toronto under license by Webster Electric Company

WEBSTER ELECTRIC RACINE WISCONSIN

MANUFACTURERS OF FUEL-UNITS, IGNITION TRANSFORMERS AND DELAYTROLS

BETTER Heating Systems
for
LESS MONEY
with the
American
EXPANSION
REGULATOR

YOU CAN:

- Reduce Callbacks
- Get rid of waterlogged tanks.
- Operate noiseless systems.
- Stop using air gadgets.
- Do it ALL CHEAPER!

Write for Literature

American Tube Products
Incorporated
RIVERDALE BLDG., NATICK, RHODE ISLAND

Ohio heavy-duty oilburner Motor is lightweight and thermally-protected

OHIO ELECTRIC has announced a lightweight oilburner motor, rated at ¼ hp and designed for heavy duty service. Built to NEMA specifications for oilburner motors with No. 56 frame, these Series 991 motors are available for 115 or 230 volts, 50 cycle (1450 rpm) and 60 cycle (1725 rpm). Motor is enclosed and based on three-piece construction design, with die-cast aluminum alloy end bells, each with 12 strengthening ribs. Stator ring is fabricated from a single piece of heavy 12-gauge steel; stator coils are heavily insulated.

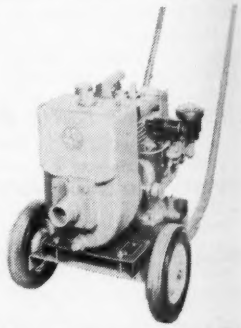
Series 991 motor's rotor core is an aluminum alloy die casting, while bearings are steel-backed babbitt, precision-bored for noiseless operation. A Syncro-Snap starting switch with only one moving part is rated at a million cycles. Motors are supplied with rubber-covered leads as standard.

Made by: The Ohio Electric Mfg. Co., 5400 Dunham Road, Maple Heights, Cleveland, Ohio.

Circle E6 on coupon, page 134

Line of self-contained, self-priming Pumps is introduced by Bell & Gossett

A LINE of self-priming pumps is being marketed by Bell & Gossett. The "Little Gem," a motor driven self-priming pump, is equipped with a ¼ hp motor and is capable of producing capacities to 23 gpm and heads to 50'.



Also available are the two gasoline engine driven self-priming pumps illustrated. They are capable of producing capacities up to 135 gpm and heads up to 100'.

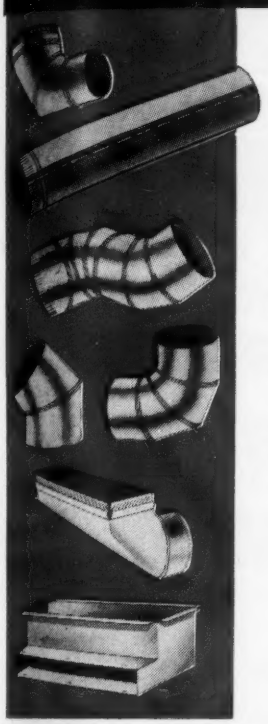
Made by: Bell & Gossett Co., Morton Grove, Ill.

Circle E7 on coupon, page 134

Studebaker's half-ton Truck with non-slip Differential

STUDEBAKER'S half-ton truck is available with a non-slip differential as factory-installed optional equipment. Studebaker's Twin-Traction differential divides driving power or engine torque between the rear wheels so that the major engine driving force is transmitted to whichever wheel has

Easy to TRANSPORT, HANDLE & INSTALL Rust-Proof and Efficient!



From a practical standpoint, there are many sound reasons for installing Char-Gale aluminum fittings. Highly workable and easy to install, aluminum is also easy to transport and handle before it gets to the job.

In dealing with the customer, Char-Gale aluminum fittings offer many *additional* advantages. Because aluminum is rust-proof, it will never rust out and require costly replacement. This is particularly important for customers buying or planning to buy cooling equipment. In addition, this corrosion resistance keeps the inside surface smooth so that the air flows faster, for lower operating cost and greater efficiency. Efficiency also results from the low heat emissivity of aluminum, which minimizes the heat loss by radiation. And aluminum is an acoustically "dead" metal, which means that properly installed aluminum ductwork is silent.

Also a full line of galvanized fittings and rain carrying goods.

Rapid, nation-wide delivery service by Char-Gale's own fleet of trucks means prompt delivery direct to you. Reduces your inventories to save you money and space.

Char-Gale MANUFACTURING COMPANY
ANOKA, MINNESOTA

NEW IMPROVED **Vaporite**

Automatic Humidifier

Fits any straight side warm air furnace

Series 555

Corrosion Resistant Stainless Steel Vapor Pan 4" x 15"

ONE SIZE . . . ONE KIT ASSURES LOWEST COST INSTALLATION AND MINIMUM INVENTORY EXPENSE

Vaporite No. 555 Humidifier comes completely assembled in one package. No extras to buy . . . no parts to assemble . . . no extra holes to cut . . . no pan leveling or tricky mounting.

NEW IMPROVED VALVE — Provides more positive drip-feed thermostat operation. Water drips fastest when furnace is hottest . . . pan is dry when furnace is cold. Adjustable for precise vaporization needs of each installation.

Write for Catalog FO-3

AUTOMATIC HUMIDIFIER CO., Cedar Falls, Iowa

---

new!

KECO
Remote-Reading **TANK GAUGE**
For Oil and Gasoline

- Versatile!
- Attractively Priced!
- Economical to Handle!
- Minimum Dealer Inventory!

FREE BULLETIN shows why the Keco gauge is a natural for users, distributors and dealers alike. Write Today!

KING ENGINEERING CORP.
Box 410 • Ann Arbor, Mich.
MANUFACTURERS OF GAUGING EQUIPMENT FOR OVER 30 YEARS

FIRST air-cooled 4-TON

TO DEVELOP FULL 4 TON CAPACITY AT 105°
CONDENSING AIR IN ALL MODELS!

KEEPS WILLIAMSON

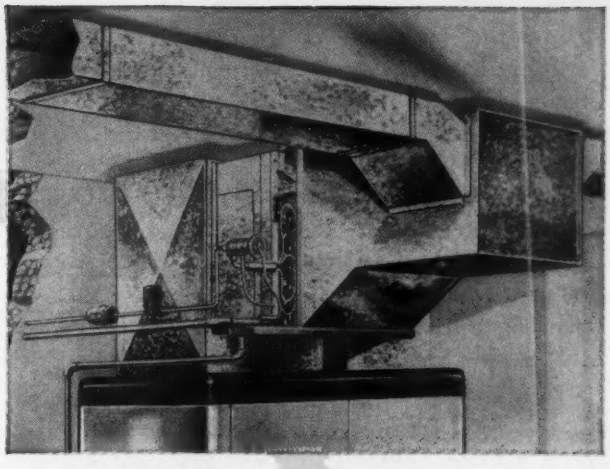
YOUR FIRST CHOICE IN COOLING EQUIPMENT
AS WELL AS HEATING EQUIPMENT

WILLIAMSON closes an Industry Gap! Now it's 2, 3, 4, 5 and 7½ ton waterless units! Satisfy everyone. When your customer needs 4-ton capacity, don't skimp with a 3 . . . or push an oversize 5. HERE'S A FOUR—right size, right price. No more compromise . . . no more lost sales!

4 complete heating price lines . . . over 100 models to choose from

WILLIAMSON . . . the industry's most complete line of Heating and Cooling Equipment! Rely on this pace-setting leader to bring you the very latest in sales-making appeals.

UNIT



THE WILLIAMSON COMPANY
3312-G3 Madison Rd. Cincinnati 9, Ohio

Gentlemen:

Please send me information on the following:

☐ Cooling Equipment ☐ Heating Equipment
☐ Duct, Pipe and Fittings

Name.....*Title*.....

Firm.....

Address.....

City.....*Zone*.....*State*.....

the best traction. Twin-Traction is described as particularly useful during driving conditions on snow, mud, sand, ice or soft ground.

When one wheel is on such a surface, the conventional differential lets the driving force go to the wheel which is easiest to turn and results in spinning both wheels. The non-slip differential, on the other hand, has been designed to prevent such slipping and spinning by supplying power to both wheels, with the wheel on the dry road surface receiving the major share of engine power.

Made by: Studebaker Div., Studebaker-Packard Corp., South Bend, Ind.

Circle E8 on coupon, page 134

Unarco's Royal Aire, Jr. provides room Cooling in portable Unit

ROYAL AIRE, JR. is the only room cooler manufactured by Unarco. It is a water-cooled, ¾ hp unit, enclosed in an 18 gauge steel cabinet measuring 29" high, 19" wide and 18" deep. It rolls easily on rubber composition wheels and has a front air discharge to increase its delivery of cooled air. Maximum air flow capacity is 370 cfm.

The water-cooled unit does not require permanent fittings and, if desired, water can be drawn from any household tap through ⅜" flexible rubber tubing. Water consumption is held to a minimum by an automatic water valve and condensate removed from the air is automatically pumped into a drain connection. It is equipped with thermostat, 1" insulation for the cabinet and a removable, permanent type air filter.

Made by: Union Asbestos & Rubber Co., Heating & Cooling Div., 332 South Michigan Ave., Chicago, Ill.

Circle E9 on coupon, page 134

Stewart-Hall packages soot Remover as a Liquid in aerosol Container

SOOTSPRAY, available from Stewart-Hall, represents a departure in packaging in that a liquid soot remover is shipped in an aerosol container. Its action is described as reducing the ignition point of soot so that it burns rapidly at a relatively low temperature. Also, Sootspray itself is non-inflammable.

The spray pattern of the aerosol container facilitates complete coverage of the firebox surfaces. Contents of a can are equivalent to 4 lbs. of ordinary soot powders, yet the can fits into a serviceman's pocket.

Made by: Stewart-Hall Chemical Corp., P. O. Box 66, Fleetwood Station, Mt. Vernon, N. Y.

Circle E10 on coupon, page 134

SEE IT SELL IT SERVICE IT PROFIT!

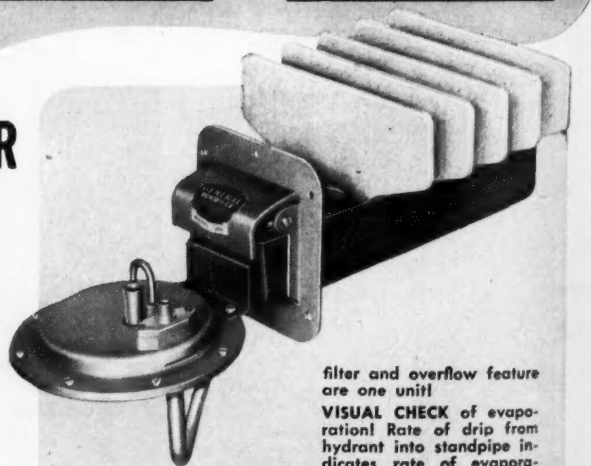
IT'S BRAND NEW!

GENERAL "200" HUMIDIFIER

Unit Type For Warm Air Furnaces

Easiest of all humidifiers to install — just paste paper template to sheet metal, cut hole indicated on template, and slip the assembled unit into the hole. Two wing nuts allow leveling in a minute. Exclusive HYDRO-FLOW REGULATOR controls water flow. Will not lime, stick, or cause trouble in any way. Porosil evaporating plates provide better capillary action for greater evaporation. Built-in strainer filters out any dirt particles.

This new addition to the General line enables you to fit the humidifier to the job — gives your customer a choice of the Model 250 which humidifies without the use of evaporator plates or the one-piece Model 200. No other humidifier line gives you this choice. Use General Humidifiers every time for a "long time" satisfied customer.



SIMPLEST of them all to install — No fiddling adjustments!

BUILT-IN diaphragm controlled nylon valve, water filter and overflow feature are one unit!

VISUAL CHECK of evaporation! Rate of drip from hydrant into standpipe indicates rate of evaporation!

STANDPIPE acts as overflow! No extra lines to install, no tapping into sewers!

Write for further information, prices, and the name of your nearest jobber.

You Sell With Assurance When You Sell *General*

ANOTHER OUTSTANDING PRODUCT OF

GENERAL FILTERS, INC.

43800 Grand River Avenue
Novi, Michigan

IN CANADA: Canadian General Filters, Ltd., 39 Crockford Blvd., Scarborough (Toronto 16), Ontario

When I sell a BURNHAM Hot Water Heating System I know I can keep the PROFIT!

"The high quality of Burnham heating systems makes good profitable sales for me. There are few, if any, call backs and the fine performance of Burnham products makes me a lot of strong friends." • Wide choice . . . a rugged cast-iron boiler for every fuel and purpose, all giving top performance. That's mighty important! All are designed by an expert engineering staff with over 80 years of experience to draw on. Vertical flue travel over specially designed sections with hundreds of heat-absorbing pins or fins makes them all top fuel savers. All can be equipped for year 'round automatic domestic hot water supply by the addition of Burnham all-copper coils. Get the full story . . . Mail the coupon TODAY.

Cast-Iron BURNHAM BOILERS for Dependable Performance

"One BASE-RAY Installation sells another"

"The minute my customer sees a BASE-RAY* installation, with all its desirable advantages, she's ready to listen. The joy of having no cumbersome radiators or hot-blast registers to interfere with furniture arrangement or decorative effect appeals to her."

But the other features of BASE-RAY appeal as strongly to men: The cleanest, evenest, most draft-free heating known . . . gentle radiant heat that penetrates every nook and corner . . . no cold spots, even near large picture windows . . . no expansion noises. And better still BASE-RAY means true economy . . . it's made of cast iron for long trouble-free life. Yes, customers quickly agree BASE-RAY and Burnham Boilers provide the last word in winter comfort. Particularly when cost is so reasonable . . . only a dollar or two added to carrying charges gives them the finest heating comfort available. And for you — extremely easy installation for new work or modernization. The coupon will bring full details.

*Reg. U. S. Pat. Off.

Burnham Corporation
IRVINGTON • NEW YORK
FIRST IN THE MANUFACTURE OF BASEBOARD HEATING

Burnham Corporation
Irvington, New York FO-36

Please send me full information on:

BASE-RAY ☐ BURNHAM BOILERS ☐

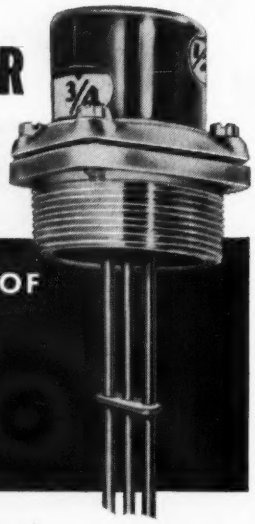
Name.....

Address.....

City.....State.....

fuel oil & oil heat

Customer Satisfaction is Guaranteed with ROCHESTER OIL Tank Gauges



WEATHER-PROOF
FUME-PROOF
LEAK-PROOF
FOOL-PROOF

Pressure tight head is completely weatherproofed to make this gauge equally suitable for indoor and outdoor installations. There is no opening of any kind into tank, as the dial indicator works on an exclusive magnetic drive to make gauge fume-proof and give perfect reading at all times. Head is hermetically sealed to make it leak-proof, dust-proof and absolutely shock-proof. Safety factor far exceeds Underwriter requirements.

Don't take the chance of ruining an otherwise good installation . . . insist upon a Rochester Universal Gauge. It will pay off in customer satisfaction and overall profit. Sold at leading wholesalers everywhere.

FREE... OIL LEVEL CONVERSION SCALE

This simple pocket scale converts tank gauge indication into gallons. Provides installation and servicemen, or home owner, with quick oil level reading in actual gallons. Mail the coupon today for your FREE Conversion Scales.

ROCHESTER MFG. CO., INC.
8 Rockwood St., Rochester 10, N.Y.

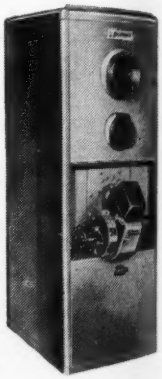
Gentlemen:
Please send ____ Oil Level Conversion Scales.
NAME_____
FIRM_____
ADDRESS_____
CITY & STATE_____

ROCHESTER THERMOMETERS GAUGES • SWITCHES

"You Can Rely on Rochester"

Janitrol oilburning furnace Units come in three output Capacities

A NEW LINE of Janitrol oilfired winter airconditioning units includes low-boy, high-boy and counterflow models, each in three sizes: 85,000, 102,000 and 135,000 Btu/hr output at the bonnet. All are assembled, internally wired and tested before shipment; only the burner, refractory lining and controls are installed on the job. Fired with the "Jet-omizer" pressure atomizing oilburner, the units feature blower and motor "floating" on live rubber cushions.



Janitrol's "Heating Heart" in these units incorporates a combustion chamber and heat radiator assembly of 14-gauge, all-welded steel construction, eliminating bolted and gasketed joints. The extra large radiator features rounded corners for easy cleaning, while the special refractory lining is shaped to uniformly diffuse heat radiation.

Made by: Janitrol Heating & Air Conditioning Div., Surface Combustion Corp., Columbus 16, Ohio.

Circle E14 on coupon, page 134

Bacharach Tempscribe Model TTR is a remote-reading, recording Thermometer

TEMPSCRIBE MODEL TTR is Bacharach's remote-reading recording thermometer, equipped with a temperature-sensitive bulb and 6 ft. of flexible capillary tubing. Two ranges for remote recording are available: minus 30° F. to plus 50° F. and plus 10° F. to 90° F. The pen operating mechanism, to which the capillary tubing is connected, is housed in the instrument's removable door. By replacing the door, the instrument can be converted from one temperature range to another.

Doors also are available with built-in bimetal elements for recording ambient temperatures or with electro magnetic armatures for recording cycling and total running time of motors and heaters. For ambient temperature recording 10 ranges are furnished from minus 30° F. to plus 120° F.

Made by: Bacharach Industrial Instrument Co., 7301 Penn Ave., Pittsburgh 8, Pa.

Circle E15 on coupon, page 134

McGraw Coolerator Airconditioners offered in room Units up to 2 Hp

MCGRAW ELECTRIC has announced its line of Coolerator room units in models up to 2 hp. A Super model ¾ hp handles room up to 440 sq. ft., along with a companion

YOUR *Profit Package* FOR SPRING!

Firomatic
FUEL OIL FILTERS

try them for:
- Greater Sales
- Fast, Easy Installation
- Trouble Free Performance

Firomatic filters guarantee substantial profits for both the jobber and the installer. Their rugged construction and thorough filtration keep oil burners operating at peak efficiency over a longer period of time.

Get set for a brisk spring business — add Firomatic filters to your line, now!

Sold nationally by jobbers only.

THE MORSE SMITH MORSE CO.

165 Dexter Avenue • Watertown, Mass.

More than a Recap!

• • • that's what you get with

HAWKINSON TREADS

Because

A TREAD TO SUIT YOUR NEEDS

- RUN COOLER • LAST LONGER
- GIVE BETTER TRACTION
- BETTER PERFORMANCE

CURED THE WAY THEY RUN

AUTHORIZED HAWKINSON TREAD SERVICE

Authorized **HAWKINSON TREAD** *Service*

In Principal Cities U. S. A., Canada and Foreign Countries

Minneapolis ★ **PAUL E. HAWKINSON CO.** ★ Minnesota

Now a KING SIZE Model Too!

Auto-flo

Fuel Oil Filters

Best for the JOB!

Best for YOU!

More features . . . better heat for your customers . . . more profits for you. Double filter action positively protects against clogged nozzles and lines, eliminates call-backs. Leakproof one-piece construction, reinforced bolt spud, guaranteed permanently rustproof. Hexagon extensions . . . easiest of all to install . . . at either tank or burner.

It's sure to satisfy. Use Auto-flo Fuel Oil Filters on *every* installation, gravity or pressure type burners—the F-300 Standard, or the King Size F-400 for over-standard and commercial applications.

ASK YOUR WHOLESALER ABOUT THE . . . Auto-flo AUTOMATIC HUMIDIFIER

AUTO-FLO CORP., 14590 Schaefer, Detroit 27, Mich.

Please send me full information on Auto-Flo:
☐ Fuel Oil Filters. ☐ "100" Automatic Humidifier.

Name_____

Address_____

City_____ Zone_____ State_____

1 hp unit for rooms up to 600 sq. ft. Both are contained in compact cabinets, 15¾" high, 26⅜" wide and 23 15/16" deep.

Custom line includes ¾, 1 and 2 hp window units. The two smaller sizes are installed in the same size cabinet as houses the Super models. The Custom 2 hp will condition rooms up to 1010 sq. ft. Its cabinet measures 26⅜" wide, 17¾" high and 29 15/16" deep. All units have four directional grilles; all Custom units have a concealed control panel and night light.

Made by: McGraw Electric Co., Lonergan Mfg. Div., 704 N. Clark St., Albion, Mich.

Circle E16 on coupon, page 134

New Line of Chevrolet Trucks features an automatic, six-speed Transmission

CHEVROLET'S new line of 65 models available on 15 different wheelbases features: Automatic transmissions for all models, with new Powermatic six-speed unit offered on 15 models in the two-ton group; more powerful V-8 and six cylinder engines; safety advances, including optional governor for the high-powered truck V-8 and a hydraulic retarder augmenting the regular braking system; tubeless tires as standard equipment; redesigned interiors.

The Powermatic transmission automatically determines a shift schedule according to load, speed, grade and other factors. Unit also may be shifted by the driver into three specialized ranges. Including the Powermatic, optional for 15 of the two-ton trucks, there are eight different transmissions for the new Chevrolet truck line.

Made by: Chevrolet Motor Div., General Motors Corp., General Motors Bldg., Detroit 2, Mich.

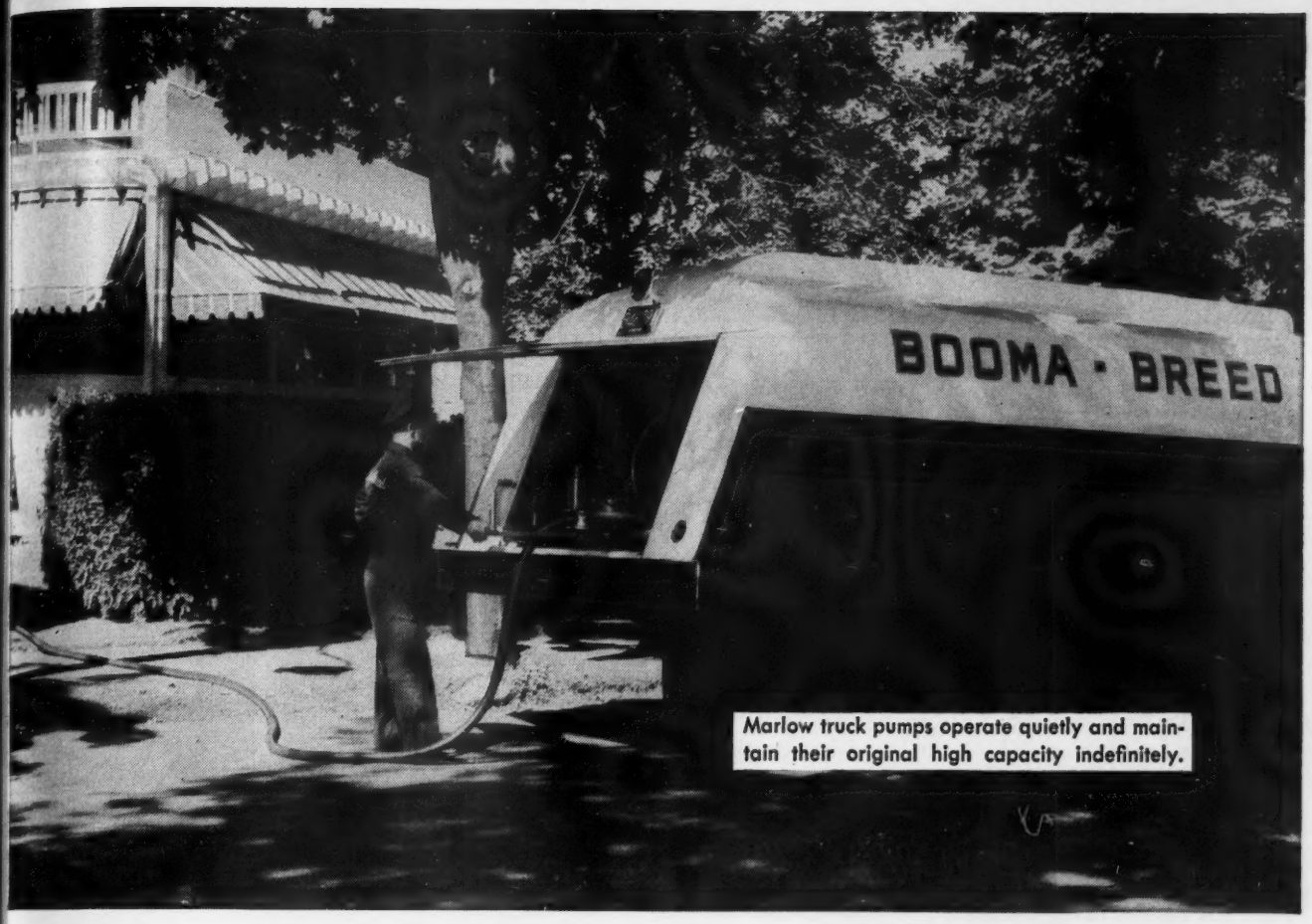
Circle E17 on coupon, page 134

Remington introduces new Line of window Units for summer Cooling

REMINGTON'S window unit line for 1956 includes the Pacemaker Series with ½ and ¾ hp models. Both are for 115 volt service, have the same outward appearance and dimensions and will fit a 24" double hung window without structural changes. The Regal Series features a ¾ hp unit with thermostat, 2-speed fan motor, 10-way discharge grilles, 2-stage ventilation-exhaust. This model is available for 115 or 230 volts; a companion 1 hp model is offered for 208 or 230 volt service.

An entirely new model WD20A is a flush-mounted unit with 2 hp capacity for 208 or 230 volt service.

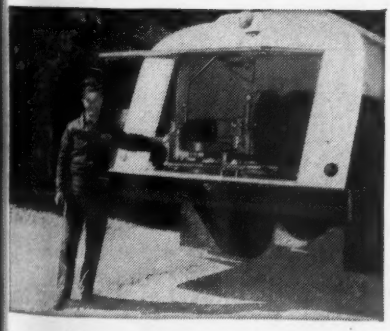
Remington "Consolaires" are made in both ¾ and 1 hp capacities. These units are entirely within the room, suited to installation in front of double hung or casement win-



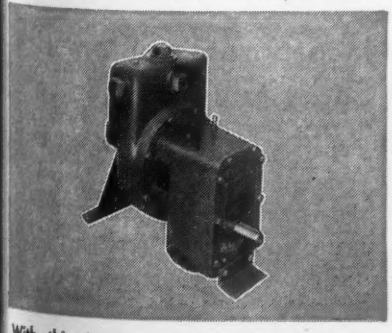
Marlow truck pumps operate quietly and maintain their original high capacity indefinitely.

High Capacity Pumps Speed Oil Delivery

MODERN EQUIPMENT . . . DRIVER INCENTIVES . . . CUT DELIVERY COSTS 10%
FOR BOOMA-BREED, INC., LYNN, MASSACHUSETTS



Says top driver, John Cosentino, "To make money, you've got to get the oil out of the truck fast and this Marlow does just that."



With this Marlow centrifugal pump, an impeller rotates freely in the liquid, and eliminates maintenance caused by wearing surfaces, shock loads, and vibrations.

DELIVERING seven million gallons of fuel oil annually with eleven trucks keep men and trucks on the go. To accomplish this, Roland Booma and William Breed operate a unique driver incentive plan and supply their men with the best equipment obtainable.

Booma-Breed's new truck, with a Marlow pump, is now being tested by their top driver, John Cosentino. John is very conscious of the pump on his truck since this is the part that moves the oil. He generally operates the pump at 110 pounds pressure and delivers 80 gallons per minute through 125 feet of 1¼" hose. In some cases, he has run as high as 160 pounds with a delivery rate of 120 gallons per minute.

Ronald Kinville, in charge of maintenance, is pleased with the vibrationless operation of the pump. He says there is noticeably less strain on the engine while the pump is operating and less shock-load on gauges, meter, and piping when the nozzle is opened and closed. John Stevens, their Oil Department Manager, thinks the pump will have better customer acceptance because of its quiet operation. At the same time he believes that it will allow them to distribute oil at less cost from the standpoint of truck maintenance, trucks in operation, and drivers required.

If you are interested in reduced delivery costs, investigate this modern method of handling fuel oil. Complete information on Marlow pumps and the name of your nearest dealer can be obtained simply by writing Marlow Pumps, Midland Park, N. J. Ask for Bulletin PM-06.

Marlow PUMPS

3-269

MARLOW PUMPS
Division of Bell & Gossett Company
MIDLAND PARK, NEW JERSEY
Morton Grove, Illinois **Longview, Texas**
In Canada: PUMPS & SOFTENERS LTD., LONDON, ONTARIO

CONVERSION JOB *Tips*

Watch Your Oil Sales Grow

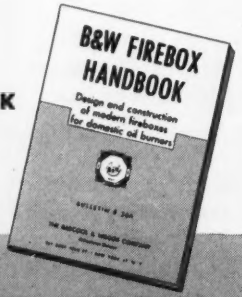
When You Sell Fuel Savings

Word gets around fast. When you sell an oil burner installation with a firebox of B&W Insulating Firebrick, it saves the homeowner as much as 25% on fuel . . . a saving he's only too happy to proclaim to all his friends and neighbors. Word-of-mouth advertising like this can't do you a bit of harm. In fact, it means more oil burner sales — and, even more important, more oil accounts.

The extra few dollars your customer pays for the benefits of a B&W firebox come back to him multiplied many times over. For lightweight B&W Insulating Firebrick have millions of tiny, insulating air cells that bounce the heat back into the firebox. Result: fuel savings and more complete combustion—clean, odorless heat. And quieter operation, too, thanks to those millions of insulating air cells. They absorb sound in much the same way acoustic tiles do.

Every time you sell fuel economy plus all the other full-comfort advantages of a B&W Firebox, you sell yourself more strongly as *the* man in your community to see about oil heating.

Send today for the
B&W FIREBOX HANDBOOK
a valuable guide for every installer



THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
General Offices: 161 East 42nd St., New York 17, N.Y.
Works: Augusta, Ga.
R-514

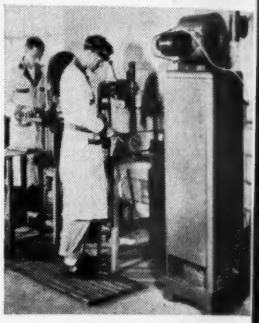
dows or through-the-wall. A 1 hp water-cooled console is offered again this year, along with a 1½ hp console in both air- and water-cooled versions. All consoles are available with steel or wood panel fronts.

Made by: Remington Air Conditioning Div. of Remington Corp., Auburn, N. Y.

Circle E18 on coupon, page 134

R. D. Fageol designs Unit to reduce Cost of installing factory heating Systems

DESIGNED TO REDUCE installation and operating costs and facilitate plant expansion is a system of factory heating made by The R. D. Fageol Co. Basis of the plan is utilization of individual heat machines, model VO-168, instead of a central heating system.



The unit can be placed in any desired location, quickly vented outdoors and put to work. The units facilitate departmental heating. When one section of a plant is in operation only the units in that area need be used. Each unit is self-contained and has a heat output of 168,000 Btu/hr when unvented and 130,000 Btu when vented.

Made by: Fageol Heat Machine Division, R. D. Fageol Co., Kent, O.

Circle E19 on coupon, page 134

Parker O-ring Seals are synthetic Rubber, designed for fueloil Service

O-RING SEALS molded from a new synthetic rubber compound developed especially for fueloil service are offered by Parker Appliance. The new material, Parker compound 37-751, was produced by the firm's Rubber Research and Development Laboratory and is UL approved for use with fueloils.

Made by: Parker Appliance Co., Rubber Products Div., 17325 Euclid Ave., Cleveland 12, Ohio.

Circle E20 on coupon, page 134

Queen Stove incorporates automatic Features into Superflame oil Heater

THE CONSOLE TWIN Superflame oil heater, Model 99-TW, incorporates automatic ignition, thermostatic control and fan control into its "Fuel-Saver" design. Electrically-controlled ignition eliminates continuous operation of pilot flame since the burner ignites only on demand of the thermostat. Thermostat also controls the true-draft booster which creates a suction on the burner and a pressure on the chimney.

Superfan is regulated by an automatic fan control and

Perfection Burners use Delavan Nozzles as Original Equipment

Delavan Nozzles were selected as standard equipment in Perfection oil burners for two important reasons: Perfection engineers found that Delavan Nozzles deliver smooth, quiet, efficient fires. Delavan Nozzles are uniformly dependable, nozzle after nozzle.

A leader in the manufacture of oil-fired furnaces, Perfection Stove Company offers an exclusive feature in its Regulaire Circulation. Regulaire automatically regulates the flow of air through the blower to match the amount of warmth coming from the furnace. This unique feature eliminates hot and cold blasts; assures smooth, full-time heating comfort.

For your replacement nozzles choose the nozzle first choice with over 120 manufacturers of oil fired furnaces . . . Delavan.

Write for Catalog No. 148B

DELAVAN *Manufacturing Co.*

MEMBER OHI OIL-HEAT INSTITUTE OF AMERICA

WEST DES MOINES, IOWA

you can
DEPEND on
Monarch
UNIFORMITY

Every Monarch Nozzle is precision machined and fire-tested for exacting uniformity in every detail. For dependable trouble-free operation put your confidence in Monarch's guaranteed uniformity.

Check these 6 Big Monarch Features:

1. Every tip individually tested for Spray Angle and Capacity.
2. Self-Centering internal assembly always produces a balanced spray.
3. Micro-Finish of Tip and Disc seats plus extremely close manufacturing Tolerances insure accurate capacity control.
4. Will handle any United States or Canadian domestic oils.
5. Tip, Disc, and Locknut are made of High Chrome Stainless Steel for maximum heat and wear resistance.
6. Five different series available for producing various spray characteristics—all developed through hundreds of Field and Laboratory fire tests.

Write for Catalog "O"

DEALERS: Buy from your Monarch Jobber

Monarch MFG. WORKS, INC.
2503 E. ONTARIO ST., PHILADELPHIA 34, PA.
Canadian Sales Agents (Except B.C.)
Canadian General Filters Ltd., Toronto 16, Canada

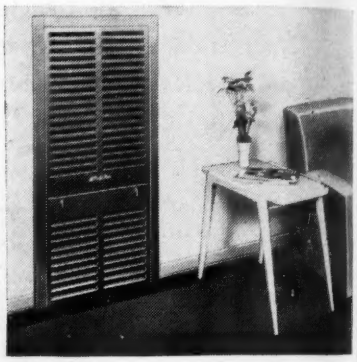
continues to run for about 5 mins. after the burner goes off to insure proper circulation during the cooling period. "Fuel-Saver" design combines triple combustion burners and two super-radiating heat chambers; unit's heat radiating surface is 4,935 sq. ins.

Made by: Queen Stove Works, Inc., Superflame Div., Albert Lea, Minn.

Circle E21 on coupon, page 134

Perfection designs recessed wall Heater with a 58,000 Btu output

PERFECTION INDUSTRIES is marketing a new recessed wall heater, Model OW55, which operates on No. 1 fueloil and has a 58,000 Btu output. The heater is designed for space-saving and has the combustion chamber behind the wall so there is flush-to-wall installation.



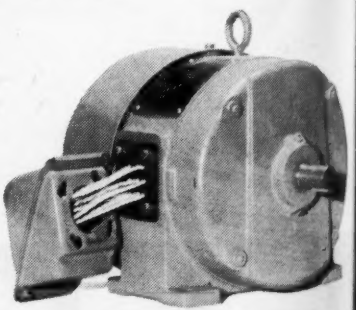
Equipped with a vaporizing burner. A constant level fuel valve with high temperature limit control prevents overheating. Unit has circulating fan of the 10-inch propeller type with aluminum blades. Both fan and motor are automatically operated.

Made by: Perfection Industries, Ivanhoe Rd., Cleveland, O.

Circle E22 on coupon, page 134

General Electric introduces two AC motor Lines in 1-5 hp Range

TWO NEW LINES of enclosed, non-ventilated, fan-cooled motors are being made by General Electric. They are designated as "Standard Enclosed" (illustrated) and "Severe Duty Enclosed." Both lines have a range of 1 to 5 hp.



The Standard features a steel conduit box and fan cover and has a keyhole mounting for easy installation. The conduit box is completely gasketed with cork neoprene.

The "Severe Duty" line is basically the same except for features that make it suitable for use in corrosive or excessively moist atmospheres.

Made by: Small Integral Motor Department, General Electric Co., Fort Wayne, Ind.

Circle E23 on coupon, page 134

POWER DRAFT
Makes the difference!

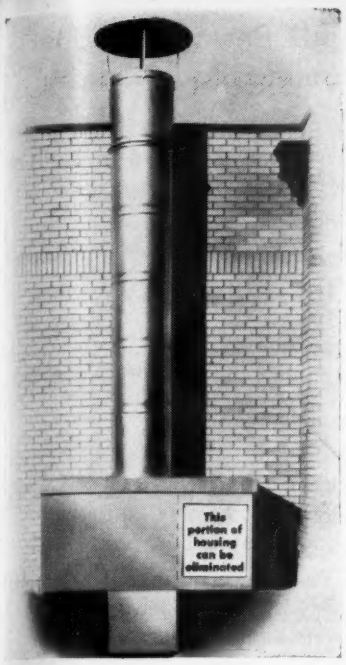
Quickdraft WITH 12-FT. VENT PIPE ELIMINATES 65-FT. CHIMNEY FOR

Bill's Commissary

North Canton, Ohio

Appearance, efficiency and economy . . . are the advantages Bill's Commissary gained by venting a gas fired steam boiler at roof level with a QUICKDRAFT commercial power draft unit. The unsightly appearance of a 65 ft. chimney towering above a one-story building, was eliminated. For safety and maximum efficiency, gas cannot be turned on in this 2,250,000 Btu boiler until after full draft has been established. In addition, Quickdraft was selected to overcome the 0.1 in. (1/10″) negative pressure within the building that could be caused by exhaust fans over ovens and ranges, in event of failure of warm air fans in heat changer. These advantages, unobtainable by gravity draft, were most important on this installation. In addition, power draft venting cost $2,598.00 *LESS* than a 65 ft. chimney.

This installation is typical of the advantages Quickdraft offers for residential as well as commercial installations. A standard 22 in. Quickdraft unit was used . . . housing and pipe can be built by local sheet metal contractor. Write for complete details and engineering data.



POWER DRAFT WITHOUT FANS OR MOTORS IN SMOKE LINE

Commercial models for smoke outlet diameters 12, 14, 16, 18, 20, 22, 24 and 30 inches.

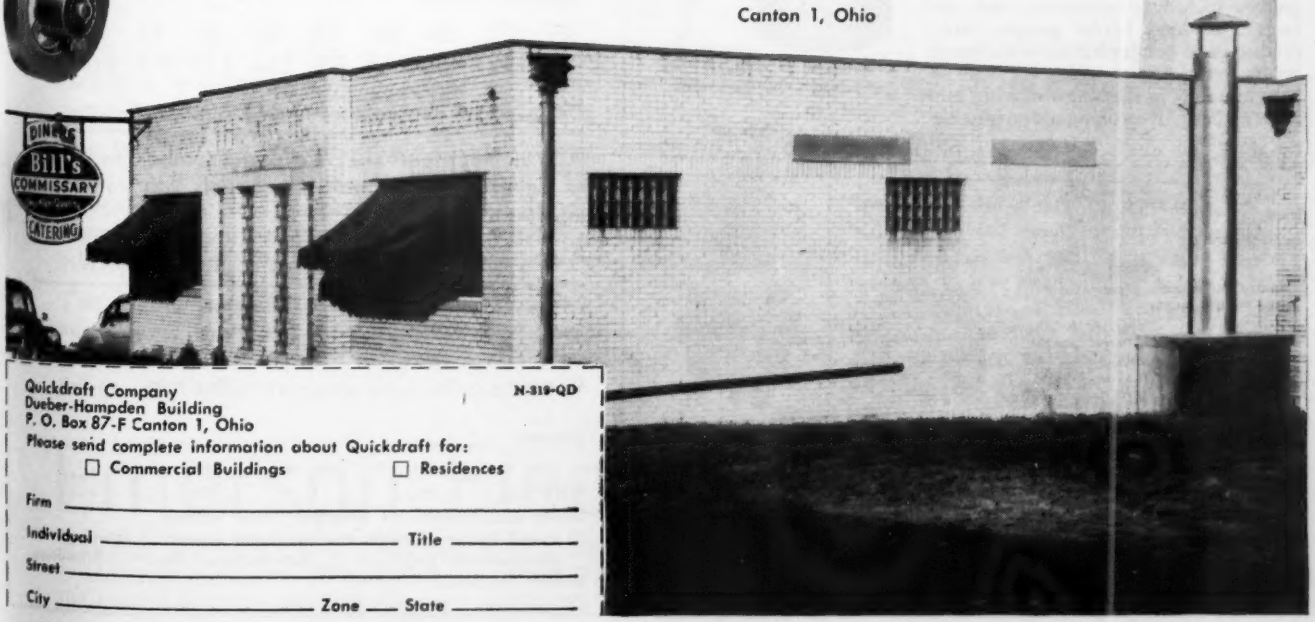
Residential models for smoke outlet diameters 4, 6,7, 8, 9 and 10 inches.

QUICKDRAFT HAS MANY USES

Venting commercial and residential heating plants . . . *exhausting* noxious and abrasive industrial fumes . . . *with or without a chimney!* Recommendations will be made without obligation upon receipt of rough sketch, notes on fuel used, unit input capacity, size of exhaust outlet, length, height and clear inside area of vent line.

Quickdraft
COMPANY

Dueber-Hampden Building
P. O. Box 87-F
Canton 1, Ohio



Quickdraft Company
Dueber-Hampden Building
P. O. Box 87-F Canton 1, Ohio

N-319-QD

Please send complete information about Quickdraft for:

☐ Commercial Buildings ☐ Residences

Firm _____

Individual _____ Title _____

Street _____

City _____ Zone ___ State _____

INCREASE EQUIPMENT SALES
...cut down delivery costs

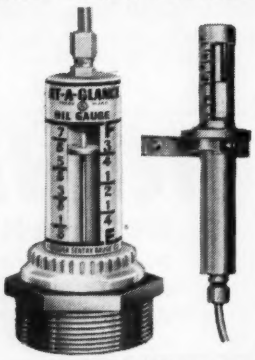
Sentry ODF* Tank Gauge tells drivers what they want to know at point of delivery!

"THAT LITTLE SENTRY GAUGE SURE SAVES US BOTH A LOT OF TROUBLE!"
TELLS WHEN OIL IS NEEDED
*Oil Dealer's Friend
. . . HOW MUCH IS NEEDED
. . . WHEN TO STOP FILLING
E 1/4 1/2 3/4 F
STOP FILLING
Sentry "ODF" remote reading gauge

ONLY Sentry OFFERS SUCH A COMPLETE LINE OF DIRECT AND REMOTE READING TANK GAUGES

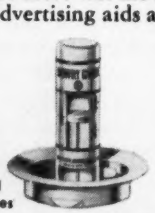
Above is SENTRY'S newest — The ODF At-A-Glance tank gauge that's setting new records in building sales and customer goodwill. Located outside of building at fill pipe, this easy-to-read weather-proof gauge shows the exact oil level in the indoor tank. Saves costly time consuming trips to basement, unnecessary hose unreeling and eliminates over-flow. Permits delivery without disturbing customer.

Other constant-register SENTRY gauges include combination tank and remote reading, barrel gauges, direct reading, and gauges for stove and space heater tank. Write today for full information about these fast moving business getters. Advertising aids available.



Combination At-A-Glance tank and remote reading gauges

Sentry stove and space heater gauges


Sentry At-A-Glance barrel gauges

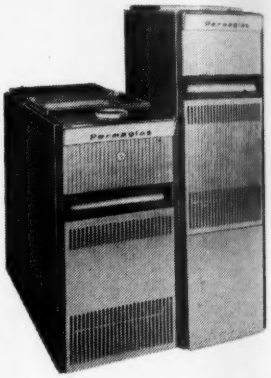
Sentry At-A-Glance tank gauge

Sentry superior quality Therma-Gauge

KRUEGER Sentry GAUGES
GREEN BAY • WISCONSIN

A. O. Smith expands Permaglas Line of heating and cooling Equipment

A MAJOR EXPANSION has been announced in the Permaglas line of warm air furnace and summer airconditioning lines. Included are 22 oilfired furnace units, Hi-Boy, Lo-Boy and Downflow models, with capacities of 70,000, 85,000, 100,000, 125,000 and 150,000 Btu/hr inputs. Also, there are six larger models with input capacities ranging upwards to 200,000 Btu/hr. This contrasts with a previous line of three basic models, all with 100,000 Btu/hr input ratings. A. O. Smith also markets a line of horizontal furnaces, ranging from 60,000 to 140,000 Btu/hr.



All the new models feature a ceramic coated heat exchanger, designed as a multiple radiator.

On the cooling side, A. O. Smith will offer 12 models of year-round airconditioners, both heating and cooling, and a total of 26 models for cooling only. These will be both air and water-cooled, vertical, horizontal and remote types, with capacities of 2, 3 and 5 tons.

Made by: A. O. Smith Corp., Permaglas Div., Kankakee, Ill.

Circle E24 on coupon

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD MARCH
Mail Now—Card Expires May 31, 1956

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
E11	E12	E13	E14	E15	E16	E17	E18	E19	E20
E21	E22	E23	E24						

ADVERTISEMENTS—Give page number and name of advertiser about whose products you want more information.

Page ..... Advertiser .....

Your Name .....

Company ..... Position .....

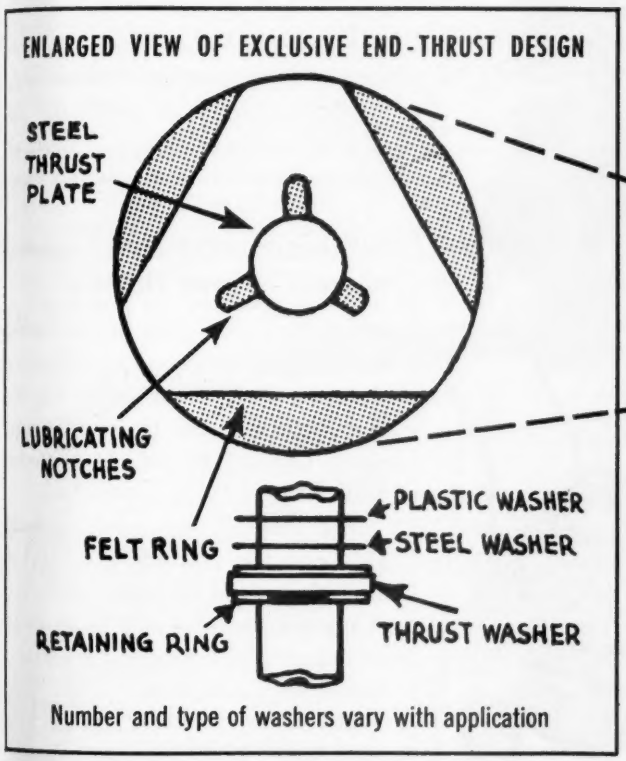
Street .....

City .....

Check Classification of principal dollar volume:
☐ Fueloil Dealer ☐ Parts and Equipment Jobber ☐ Manufacturer ☐ Manufacturer Employee ☐ Manufacturers Rep. ☐ Oilheating Dealer ☐ Other

Emerson-Electric engineering highlights

New, exclusive end-thrust design for vertical and shaded-pole, sleeve-bearing motors



Number and type of washers vary with application

Reduces wear and end play—minimizes starting failures and burnouts

Smooth, quiet operation and longer motor life result from the exclusive end-thrust design incorporated in Emerson-Electric sleeve-bearing motors, for thrust applications.

The face of the new-design steel thrust plate is provided with three slotted lubricating notches. In operation, the lubricant-saturated felt ring "bellies" up through the slots. This causes the felt-ring lubricant to be carried to the thrust surface. Continuous lubrication is thus assured—longer, noiseless operating life results.

This exclusive end-thrust feature is another Emerson-Electric engineering highlight. It illustrates once more the reason why Emerson-Electric motors have been the wise choice for power-driven equipment for more than 60 years.

Call on Emerson-Electric motor-drive specialists

The combined experience of Emerson Electric motor-drive specialists is available to designers and manufacturers of motor-driven appliances. This valuable "assist" from Emerson Electric can be profitably applied, whether you're designing or redesigning for performance and sales. Write for Bulletin No. M25. THE EMERSON ELECTRIC MFG. CO., St. Louis 21, Mo.

Emerson-Electric of St. Louis • Since 1890

BRANCHES: NEW YORK 7, N. Y., 11 Park Place • CHICAGO 23, ILL., 1623 S. Pulaski Road • SYRACUSE, N. Y., 209 Oakley Drive
PHILADELPHIA (Secane), PA., 868 Quince Lane • DETROIT 7, MICH., 1375 E. Jefferson Ave. • CLEVELAND 16, OHIO, 1580 Rockland Ave.
LOS ANGELES 42, CALIF., 5415 York Blvd. • DAVENPORT, IOWA, 617 Brady Street • CINCINNATI 11, OHIO, 2917 Ratterman Ave.

Manufacturers Activities

Bowser Display travels Nation Next Stop is Boston, March 6

MORE THAN 15,000 miles have been covered by "Bowserama," the trade show being sponsored by Bowser, Inc., Fort Wayne, Ind. The show is made up of 16 booths and recently was at the Commodore Hotel in New York and is next scheduled to appear in Boston at the Somerset Hotel, March 6, 7 and 8.

Following that appearance it goes to Atlanta, Ga., in May. Within the booths are product displays, working models, picture blow-ups, presentation literature, slides and motion pictures.

Among the products on display are: liquid control systems; filtering equipment; and pumping equipment.

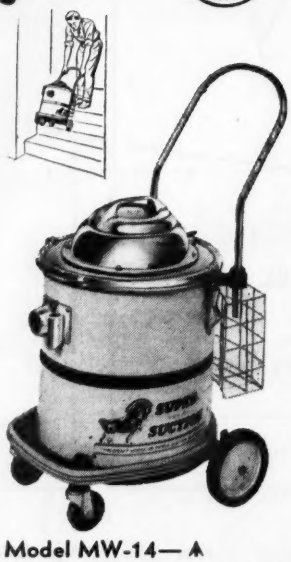
The company's key men are accompanying the tour. Officials who were in New York with the show were R. Hosken Damon, chairman of the board; Paul E. Ganz, president; Fred S. Ehrman, president, The Briggs Filtration Co.; and R. D. Courtright, president, Bowser International, Inc.

2 NEW SUPERS

—Outstandingly Modern

Never before have furnace cleaners offered so many outstanding features of convenience and performance in oil burner cleaning as these two new Super Models LW-12 and MW-14.

Model LW-12— The only "pocket" suction cleaner. Weight 26 lbs. Low priced, compact. Minimum noise level makes possible its free use anywhere, any time.



They are light and mobile. They are low priced, compact. They are equipped with the new Super uncloggable, self cleaning internal filter.

These small cleaners can do big jobs where power is needed; difficult jobs where mobility and compactness are necessary. They are designed for easy handling and maximum efficiency. They will enable you to clean more plants in less time, increase your volume and profit from service operations, and bring you into contact with more prospects for new plants.

Model MW-14— The compact, light weight, extra mobile heavy duty suction cleaner with convenience features not found on any other cleaner. Transport handle, tool basket.

Ask your supplies dealer or write

THE NATIONAL SUPER SERVICE COMPANY

1951 N. 12th ST. TOLEDO 2, OHIO

Sales and Service in Principal Cities

In Canada: Plant Maintenance Equipment Co.
Toronto, Montreal, Vancouver

"Once Over Does It"

SUPER SUCTION®

SINCE 1911

"THE DRAFT HORSE OF POWER SUCTION CLEANERS"

Packaged Comfort Heat, Inc. acquired by Morrison Steel

MORRISON STEEL PRODUCTS, INC., has acquired Packaged Comfort Heat, Inc., Cleveland. A Division for the new operation has been set up at the Morrison plant in Buffalo, N. Y.

Samuel S. Robinson, former president of Packaged Comfort Heat, is now sales manager of the Division that makes furnaces, prefabricated duct work, and registers.

Another announcement by Morrison is the promotion of Clayton A. Stahlka to director of advertising and sales promotion for Mor-Sun warm air furnaces and Packaged Comfort Heat.

G-E begins expanded Course to train heating Dealers

MORE THAN 111 cities in the United States and Canada are scheduled for the training program sponsored by the Home Heating and Cooling Department, General Electric Co., Bloomfield, N. J.

The program has been expanded 20% over last year and is tailored to meet the special problems of dealers. A key distributor in each location will conduct the school, plus G-E field and factory representatives.

More than 12,000 persons will have participated in the training course by the end of the current classes, which began in early February.

Lennox Industries Caravan schedules Midwest Meetings

THE LINE of new products manufactured by Lennox Industries, Inc., Marshalltown, Ia., will be presented to dealers by a roving caravan. The Lennox caravan is equipped with airconditioning equipment, and furnaces. Advertising and promotion campaigns will be outlined to dealers.

The first appearance was in Jackson, Mich. Other meetings will be held in Michigan, Chio, Indiana, Illinois, North Carolina, Tennessee and Kentucky.

Only

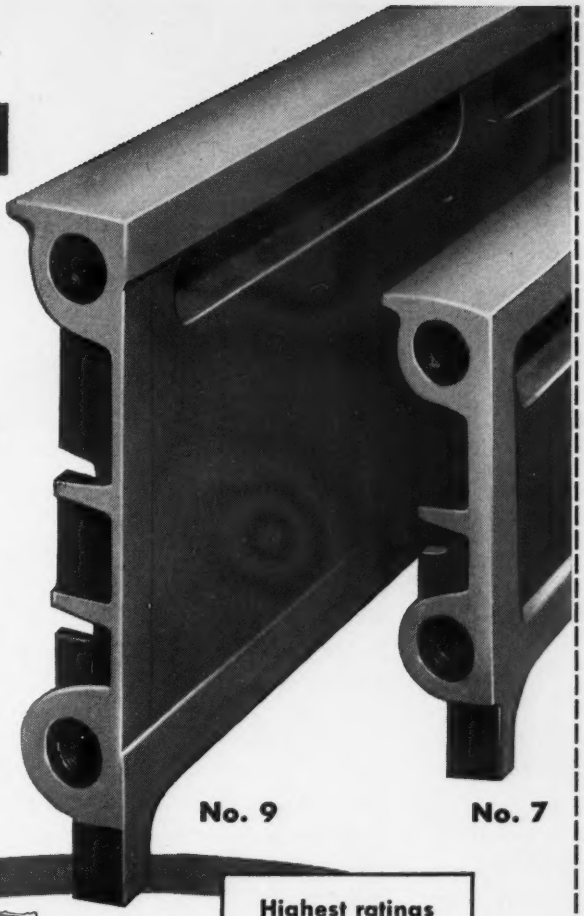
WEIL-McLAIN

RADIANT CAST IRON BASEBOARDS

offer all these

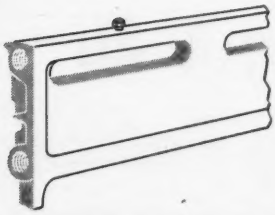
Extra Values

The "extra values" illustrated below show why Weil-McLain Cast Iron Baseboards offer *more* to both you and your customers. Easier and quicker to install—keep labor costs down—put you in a better competitive position. Clean-lined, simple styling—with a complete line of metal trim for neat, attractive installations. Ideal for modernizing, because they can be installed one room at a time without disturbing system balance. Two heights—to meet all heating requirements. Get *all* the facts—send now for literature.

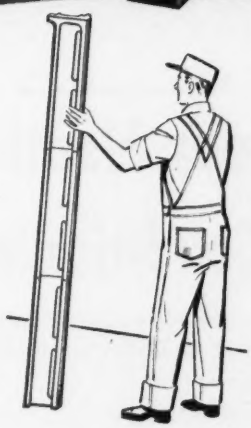


No. 9 No. 7

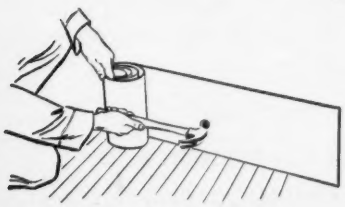
Highest ratings with lowest installed height



CONVENIENT AIR VENT
Located at top of baseboard —easily accessible.



FACTORY ASSEMBLED
Shipped assembled in lengths of 6 ft. or less—cuts installation time.

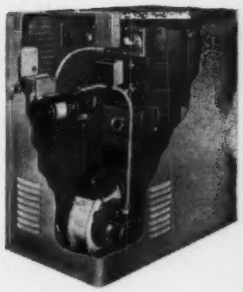


AIR SEAL STRIP
Prevents air leakage behind panels—furnished without charge.

AVAILABLE IN 6" INCREMENTS
An 18" left end section reduces need for metal extensions—permits using more available outside wall.

Cash-in on "Operation Home Improvement"

Greatest promotion in building industry history—reaches millions of families. A rare opportunity to sell modernizing with Weil-McLain Cast Iron Baseboards.



Have you seen the new WEIL-McLAIN P-OB PACKAGE BOILER

A complete oil-burning package of "extra values"—everything included for quick installation in a forced hot water system. All the efficiency and long-life advantages of round shape and cast iron construction. Top grade burner, circulator and all controls . . . provision for tankless or storage domestic water heater ...fully wired, insulated, jacketed. Two sizes—79,000 and 101,000 BTU. Send for Bulletin C-201.

WEIL-McLAIN BOILERS · RADIATORS

WEIL-McLAIN COMPANY
MICHIGAN CITY, INDIANA

Address literature requests to Dept. B-36

fueloil & oilheat

Three separate caravans, *each housed in a huge moving van, are being used to transport "Dealerama" sponsored by Eureka Williams Corp., Bloomington, Ill. The picture shows the workmen striking the equipment at a meeting's end. All equipment must be recrated and put back on the van in rapid order as there is generally only 40 hours before the curtain goes up in the next city. The tour will go to 63 cities. Each session will be presided over by factory personnel and regional sales managers. More than 25 boilers, burners and furnaces are included in the show.*

Seven Winners of Sweepstakes named by McDonnell & Miller

WINNERS OF THE ANNUAL Christmas Sweepstakes were announced recently by McDonnell & Miller, Inc., Chicago. This was the 16th running of the "sweeps" where the names of customers and friends of the corporation are put together and then several are drawn for prizes.

This year the lucky men and their prizes were: Joseph Foncek, National-U. S. Radiator Corp., Milwaukee; and Joe Steinitz, Carlin & Steinitz, Inc., Maplewood, N. J., won G.E. portable clock television sets;

John F. Johnston, Jr., Johnston Bros., Inc., Ferrysburg, Mich.; and Marion C. Cooper, Chatham Pipe & Supply Co., Savannah, Ga., won Raytheon transistor radios;

Fruit-of-the-month will be sent during the year to Charles F. Johnson, Camp Hill, Pa.; Walter Benedict, Benedict & Benedict Co., Pasadena, Calif.; and Richard L. Pendleton, Hartford Steam Boiler Inspection and Insurance Co., Twin Falls, Ida.

Waterman-Waterbury starts Series of marketing Schools

THE FIRST of a series of three-day marketing schools that will cover the nation was launched by Waterman-Waterbury Co., Minneapolis, Minn., at Boston, Mass., February 9.

E. M. Delaney, field sales manager, has said that the schools will be primarily "you do it" sessions rather than lectures. The meetings emphasize the Waterbury Comfortrol system, basic selling techniques, and principles of retail marketing.

Eight Books To Solve Your Heating & Air Conditioning Problems

Letters are received daily from readers asking us for various Heating & Air Conditioning books which they are anxious to buy.

We, therefore, have compiled this list to acquaint all our readers with the books that are available and the price of each.

All orders mailed postpaid.

PRICE LIST

- ☐ **BEACON BOILER REFERENCE BOOK $4.00**
- ☐ **ESTIMATING MANUAL $3.00**
- ☐ **BEACON RADIATION REFERENCE BOOK ..$4.00**
- ☐ **THE SELLING MAN (Spec. Price) $4.00**
- ☐ **HEATING & AIR CONDITIONING $7.00**
- ☐ **DUCT CONSTRUCTION $3.00**
- ☐ **FIRST STEPS IN AIR CONDITIONING $2.00**
- ☐ **LOW PRESSURE OIL BURNERS $1.00**

Please Mail Remittance With Order!

HEATING PUBLISHERS, INC.

2 West 45 St., New-York 36, N. Y.

THANKS TO YOUR ENTHUSIASTIC RECEPTION OF

INSUL-LYTE COMBUSTION CHAMBERS

WE'VE GOT "GROWING PAINS"

we're reorganizing...

First of all, we're joining forces with the Fireline Stove and Furnace Lining Co., a well established firm in this field with whom you are undoubtedly familiar. Through this alliance, our new organization — Insul-Lyte Corporation — now enjoys a reliable source for raw materials of uniform high quality. You, in turn, benefit from uniformly dependable products.

Secondly, Insul-Lyte Corporation now becomes a division of the Plibrico Company, originators and developers of plastic and castable refractories. Plibrico's forty plus years of refractory and combustion experience stand behind our new affiliation for your benefit.

adding more products...

Now we offer you domestic and commercial refractories known for their quality and performance . . . Fireline refractories. They include a type and grade for all hearth and combustion chamber lining work. Economical Fire-Hearth, Firelite and first-quality Super-Hearth are castable: Fireline is plastic. Simple to use, all form durable monolithic linings of any size or shape.

Fireline refractories round out our line: now from one source you can obtain either lining materials or our pre-cast Insul-Lyte combustion chambers, so well received for their fast heating and fuel saving qualities.

with fine service ...as usual!

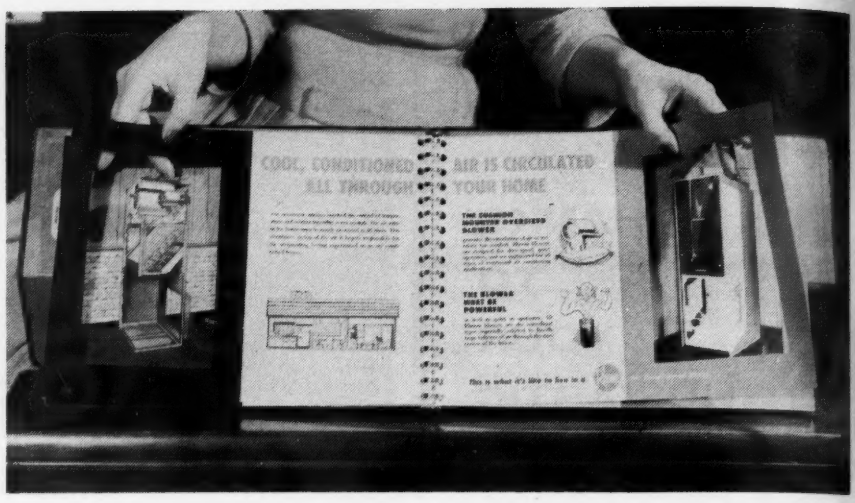
Personal, efficient service . . . capable assistance with any problem — these are features which, in addition to quality products, have been responsible, we feel, for the valued associations we've established. With our new organization, we'll not only be able to continue this fine service, but also to expand it.

At your service still will be your friends J. R. Crosby and E. N. Wash, vice-presidents of the newly created Insul-Lyte Corporation. If you have any questions about combustion chambers or domestic and commercial refractories, we suggest that you sample the service we brag about by contacting one of these men soon. They will be pleased to assist you in every way they can.

INSULATING CASTABLE CORP.
is now INSUL-LYTE CORPORATION

A DIVISION OF PLIBRICO COMPANY

130 West Pleasant Ave. • River Rouge 18, Mich.



The airconditioning section *of the Rheem sales presentation for dealers, showing the general layout and components printed on transparent acetate sheets. A similar section treats heating equipment in the same way.*

Rheem sales Presentation identifies local Dealer

A SALES PRESENTATION, developed for its retail outlets by the Rheem Mfg. Corp., Chicago, Ill., gives the dealer "top billing" in the words of Ed Soby, Rheem's advertising and sales promotion manager. Designed to sell both heating and cooling equipment, the portfolio contains a large box on the first page for the dealer to attach his business card, along the headline directed at the prospect, "Your comfort is our business."

A sales outline follows, covering survey and engineered plan, proper installation, operation "checkout" and guaranteed furnace performance. It is only in the latter section that there is mention of Rheem winter air conditioners. The presentation stresses nontechnical language, accompanied by illustrations that demonstrate technical features. Furnace components are printed on acetate sheets on each page, so that furnace parts can be added as pages are turned until a complete unit has been assembled.

The same approach is used in a separate airconditioning section, so that a dealer can use the heating section alone, the airconditioning section alone or both together. The sales story concludes with before-and-after photographs, with the dealer encouraged to make up his own file of local installations.

The presentations are available to Rheem dealers at $15 a copy; each one is registered so that the dealer automatically receives new material as it is prepared. The presentations are bound for permanence in heavy boards and covered with a substantial grade of bookbinder's plastic-treated fabric. Also its dimensions are such that it fits a salesman's brief case.

The new book is being presented to Rheem dealers through a series of wholesaler-sponsored meetings which began in February.

UP TO 58½% lighter

THAN COMPARABLE COUPLINGS!

New Flexiflange Flexible Couplings — Specially Designed for Tank-Truck Use

Because the emphasis over the past few years has been on *faster unloading*, truck and trailer tank operators have been moving to large size piping. There has been one important drawback, however, to this trend. Leakproof, flexible couplings to fit the larger pipe have always been available—but they are designed primarily for use in bulk plants and refineries. This means they are much heavier than need be.

Now Philadelphia Valve Co. has solved the problem with its new line of Flexiflange Flexible Couplings. Made of malleable iron, they are engineered specifically for use in truck and trailer tanks. They're designed for 100 psi with a liberal safety factor—far stronger than necessary for tank-truck service—yet in most cases they offer a weight saving of up to 58½ percent!

Flexiflange Couplings fit into the same grooves as any standard couplings. The seals, too, are interchangeable with other standard makes. They are available in all sizes from 1" to 6". Pipe sleeve adapters can also be furnished.

To get peak efficiency with up to 58½ percent saving in weight, be sure to specify Flexiflange Couplings by Philadelphia Valve. Write for complete information and prices.

PHILADELPHIA VALVE COMPANY

3413 Aramingo Avenue, Philadelphia 34, Pa.

Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, Calif. • Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, Calif.

Switching from round dial to Print-O-Meter registers lightens load on yard man, reduces chance of human error. Print-O-Meters are already on Cities Service trucks, so every man now has definite check on day's work.

RS-8

FACE LIFTING MODERNIZES RED SEAL METERS...

still highly accurate after 17 years in busy bulk plant

Seventeen years of hard work had so little effect on the accuracy of nine Red Seal meters at the Cities Service Mt. Vernon, N. Y., bulk plant it was decided to convert them to new Print-O-Meter registers . . . and keep them on the job! All had their original measuring chambers. Some had never been opened for repairs.

This is just one more example of the savings you too can make with Red Seal's sustained accuracy and low maintenance. No need to worry over unsuspected meter inaccuracy losses. A meter that changes so little in 17 years can be relied upon to hold steady as a rock between your regular tests. Red Seal's calibration adjustment itself is a positive, gear-locked device, and can't "drift."

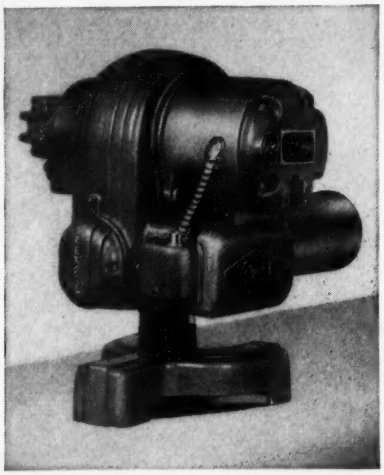
Red Seal meters are available for every tank truck and bulk plant application, including remote control systems, to 1,000 gpm. Ask your Red Seal representative or jobber for details.

NEPTUNE METER COMPANY
19 WEST 50TH STREET • NEW YORK 20, N. Y.

neptune
RED SEAL METERS

WHY SETTLE FOR LESS . . WHEN YOU CAN HAVE THE BEST?

Rexoil OIL BURNERS

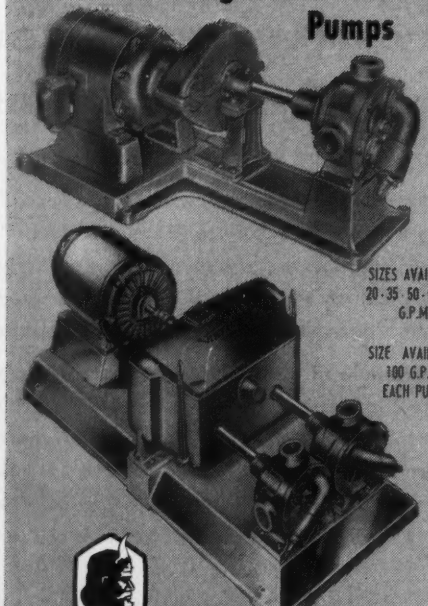


1ST in QUALITY PERFORMANCE DEPENDABILITY CUSTOMER SATISFACTION for over 30 years

Don't wait! Write, Wire or Call Jim Brockway collect today at
REIF Rexoil INC.
37 CARROLL STREET
BUFFALO 3, N. Y.
Telephone: WAshington 2420

GET ALL THESE ADVANTAGES

with VIKING All-Weather Twin and Single Bulk Transfer Pumps



VIKING PUMP CO.
CEDAR FALLS, IOWA, U.S.A.
In Canada it's "ROTO-KING" Pumps
SEE OUR CATALOG IN SWEETS

Pumps with carbon graphite bearings that require . . .
NO LUBRICATION

Pumps equipped with mechanical seals assuring . . .
NO LEAKAGE

Complete units that are of All-Weather construction . . .
NO PUMP HOUSE NEEDED

Pumps that are fast self priming . . .
NO PRIMING NECESSARY

Send for the complete Viking Oil Equipment Pump Catalog today, Section G-ee.

Crane's Dealers, Salesmen have sales Meetings, heating Parties

A FIVE-MEETING SERIES of district sales meetings are being held for the sales force of Crane Co., Chicago. The first of the two-day meetings was held in Chicago, February 7-8, the second was in Atlanta, Ga., February 13-14.

Other meetings are scheduled for Pittsburgh, March 1, 2; San Francisco, March 12, 13; and Tulsa, March 19, 20. Frank F. Elliod, president, heads the program. Others taking part are Carter T. Pollock, vice-president, plumbing; George L. Erwin, Jr., vice-president, heating; Fred C. Akers, director, marketing research, and Jeremiah J. McCarthy, manager, wholesaler's sales. Jess A. McMurry, director of branches, has been in charge of arrangements.

Washington's birthday was the date for a series of nationwide Crane heating parties sponsored by company branches and wholesalers. Heating dealers and their wives were invited to the luncheons where attention was drawn to the company's advertising program for 1956.

Erwin announced a new co-opera-

A 20-year guarantee *on the cast-iron sections of new Sunnyday 15, 16 and 20 series residential boilers is being offered by Crane Co., Chicago. In the picture above George L. Erwin, Jr., left, vice-president, heating sales division, discusses the new guarantee with Paul Conrad, Berwin, Ill., heating man. Guarantee provides free replacement and $50 toward the labor costs on any defective sections.*

BURROUGHS SENSIMATIC accounting machine

POSTS ALL THIS fuel accounting data AUTOMATICALLY!

A very special and specific need in fuel-business accounting is answered by the Burroughs Sensimatic Accounting Machine. For example, both Degree-Day Delivery Records and Accounts Receivable are automatically posted in one operation by the versatile Sensimatic. Your operator touches the keys only once for each kind of entry (type of fuel, quantity delivered, invoice number and charge). The figures print automatically in the proper position on the Degree-Day Record, Customer Ledger, and Statement.

Multiple charges may be posted in the same run, the Sensimatic automatically extending and printing the balances—and in addition, accumulating them for proof of accuracy. The information from the Degree-Day Record and the Current Day Chart is indexed on the Sensimatic; the next delivery degree day is automatically computed and printed!

Our representative will show you many variations of these systems to fit your particular needs. Whichever system you adopt, Sensimatic's ease and speed of operation, accuracy and economy, will provide you with up-to-the-minute records for profitmaking decisions! Phone our local office for a demonstration, or write direct to Burroughs Corporation, Detroit 32, Michigan.

"Burroughs" and "Sensimatic" are trade-marks

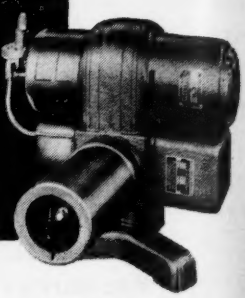
WHEREVER THERE'S BUSINESS THERE'S **Burroughs**

BEACON RADIATION BOOK

The second printing of the BEACON RADIATION REFERENCE BOOK & HEAT LOSS GUIDE is now available. A reprint of the original edition, published in 1946, the new issue reproduces the entire series of tables showing heat loss requirements for rooms of various sizes. Range of rooms covered begins with those measuring 5 ft. x 5 ft. and continues up to rooms with 20 ft. x 30 ft. dimensions. **$4.**

HEATING PUBLISHERS, INC.
2 West 45th Street New York 36, N. Y.

ELECTROL
. . . a better burner for bigger profit



ELECTROL is made for the prospect who is looking for a better burner. Higher quality brings higher selling price . . . and bigger profits for ELECTROL dealers.

Write for full information on a dealership.

ELECTROL BURNER MANUFACTURING Co., Inc., Rutherford, N.J.

A complete line of the finest oil heating equipment

tive advertising plan for dealers. The plan consists of three large advertisements for local papers, together with an animated sign for the dealer's store.

Favors for the ladies and door prizes were distributed at each of the parties. Last year Crane's "TV Breakfast Parties" drew some 8,000 people.

Airtemp sponsors 50 Schools for its sales Training Courses

MORE THAN 50 special schools were scheduled by the Airtemp Division, Chrysler Corp., Dayton, O., during January and February. J. A. Clarke, director of sales training, explained that the schools were under the direction of field training supervisors and were conducted by Airtemp field personnel.

Jointly sponsored by the company and affiliated distributors, the schools were for distributor personnel, dealers, retail salesmen and servicemen. Subjects were based on standardized training materials, films and texts, altered to fit local conditions.

14 Sales Engineers graduate from Trane's training School

AN INTENSIVE, six months sales training program for college graduates was completed recently by The Trane Co., La Crosse, Wisc. Fourteen sales engineers completed the course covering airconditioning, heating, ventilating and heat transfer.

Eleven of the graduates have been assigned to field sales offices where they will receive an additional six months of training. Three men will work in the home office in La Crosse.

Honeywell's industrial School enrolls largest customer Class

ENGINEERS AND TECHNICIANS, representing 34 U. S. and seven foreign industrial firms, enrolled in the first 1956 class on industrial instruments conducted by the Industrial Division, Minneapolis - Honeywell Regulator Co., Philadelphia.

According to M. J. Ladden, training school director, this was the largest customer class ever to enroll in the school. The three-and-a-half week session covered pyrometry, electronic potentiometers and pneumatic control.

Du Pont forms sales Group for petroleum Additives

AN ADDITIVE SALES GROUP has been organized by the Petroleum Chemicals Division, E. I. Du Pont de Nemours & Co., Wilmington, Del. J. J. Mikita, formerly director of the petroleum laboratory, has been named sales manager with headquarters in Wilmington.

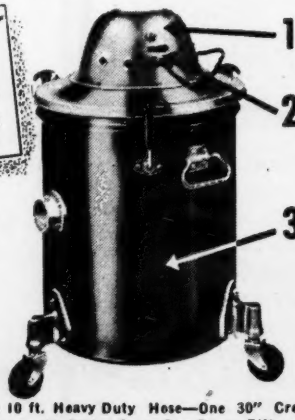
His assistant will be W. W. Wingate. W. E. Bettoney becomes manager for additives in the Eastern region with headquarters in New York. N. D. Lawson has the same position for the Central region working out of Chicago. J. B. Malin will head the Western region.

Dr. B. M. Sturgis has been promoted to director of the Petroleum Laboratory. Assistant laboratory directors will be R. O. Bender and R. H. Blaker.

3 NEW Exclusive "Home-Run" FEATURES PUT EMPIRE WAY AHEAD in the FURNACE CLEANER League

When machine shuts off, baseball bounces and shakes dirt and soot loose from rayon bag.

Rayon Bag. Baseball and Draw String. $3.75 extra.



1. New type motor, more powerful, better constructed, gives 70 inches water lift at hose end.
2. Extra electric outlet on top of machine for connecting drop light. No hunting for outlets and dragging lengths of wire across the cellar floor.
3. Amazing new Rayon Bag with "baseball" device. EXCLUSIVE on Empire Furnace Cleaners. Outlasts dozens of paper bags. Keeps machine at top efficiency. Available at extra cost.

DISTRIBUTORS NOTE — Several choice territories available. Write today for complete information.

NEW! NOW AVAILABLE WITH BY-PASS MOTOR AT SLIGHT EXTRA COST

Manufactured by
EMPIRE CHEMICAL PRODUCTS CO.
10 Longworth Street, Newark 2, N. J.

Includes . . . One 10 ft. Heavy Duty Hose—One 30" Crevice Tool—One Bag Cage with Filter Bag—One Paper Filter.

NU-VAC FURNACE CLEANER Still only $99.50

IT'S MONEY IN YOUR POCKET TO

Investigate the Versatility of

MONCRIEF

Horizontal Furnaces

4 **Gas Fired**
Oil Fired
SIZES

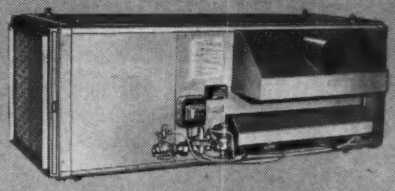
GAS FIRED: 140,000, 120,000, 100,000 and 80,000 Btu Input.

OIL FIRED: 224,000, 123,000, 101,000 and 85,000 Btu at Bonnet.

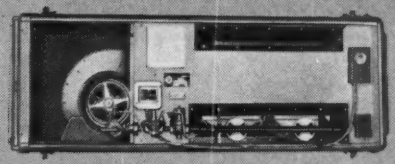
● With Gas Fired Moncrief Horizontal Furnaces, you'll discover new freedom for more flexible installations in smallest spaces, because —

1. Gas Burner and Manifold install on either side — front or rear.
2. Thus, Discharge and Return Air can be taken off either end.
3. Plus, Flue Outlet locates on either side — front or rear.
4. So, Flue Outlet and Gas Burner will install on opposite sides.
5. And, Flue Collar adjusts to Horizontal or Vertical position.

— providing the ultimate in convenience for location of gas piping, air ducts and chimney, with unequalled accessibility!



As shown, the Moncrief Gas Fired Horizontal Furnace is shipped completely Wired and Assembled, ready for speedier installation.

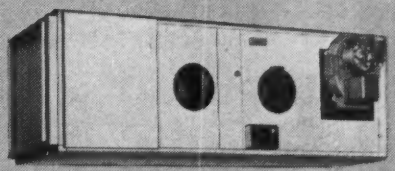


Exposed view shows drawer type Filter Frame, accessible Blower Compartment, Gas Manifold and Flue Outlet.

● Oil Fired Moncrief Horizontal Furnaces are equally compact, providing many of the same space-saving features as the gas models, with —

1. Safe, easy suspension or mounting on four pipe sockets, located at both top and bottom of casing.
2. Plate Mounting of Oil Burner on four, welded spacer studs.
3. Quieter, cleaner, more economical operation of the Moncrief Oil Burner.
4. Counterflow delivery of air over large heating surfaces.

— combining unusual ease of installation with unmatched oil burning performance.



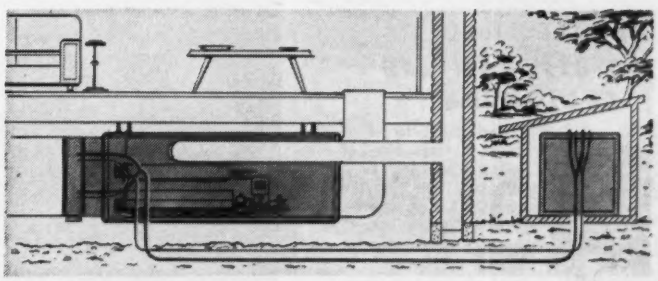
The Moncrief Oil Horizontal Furnace is shipped, in the three smaller models, with Heating Element, Blower and Motor completely assembled in the Casing. Illustration shows easily mounted Oil Burner installed on the job.

Cut-away view, illustrating Blower, Radiator, Radiation Shield and Combustion Chamber.

Unlimited Advantages for Home Builders—with Extra Dollars for You!

For your builder customers — always seeking opportunities to save on precious floor space — the Moncrief Horizontal Furnace can be hung from the ceiling, up and off the floor in garages, in utility rooms and on porches; can be laid across attic joists or located in "crawl" spaces.

For you — the distinctive engineering, sound construction, unique ease of installation and trouble-free operation of Moncrief Horizontal Furnaces are provided at down-to-earth, *competitively low prices* so that you can meet competition and still make a satisfactory profit.



COMPACT YEAR 'ROUND AIR CONDITIONING: Moncrief Gas Fired Horizontal Furnace is shown installed in a "crawl" space with Cooling Coil installed in Duct, taken off Air Discharge end of furnace. Air Cooled Refrigerant Unit is remotely installed, out-of-doors.

GET PRICES — CATALOGS FROM MONCRIEF WHOLESALERS

If you have not been competing satisfactorily for horizontal furnace installations, *you owe it to your profits* to see your Moncrief Wholesaler, today. You'll get the facts on the really up-to-date, advanced line of both Gas and Oil Horizontal Furnaces — backed by Moncrief's 60 years of manufacturing experience!

THE HENRY FURNACE COMPANY

Medina, Ohio

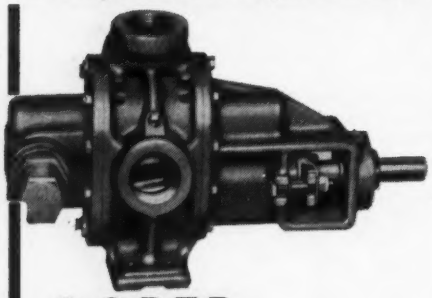
HEATING AND AIR CONDITIONING UNITS

MONCRIEF

FURNACE PIPE AND FITTINGS

RENICK & MAHONEY, INC.

Get dependable EQUIPMENT



ROPER

TANK TRUCK PUMPS

You get quiet, efficient deliveries when you use Roper Tank Truck Pumps. And your pumps last longer, because Roper is noted for durability. For all grades of gasoline, kerosene, diesel fuel and fuel oils.
Consult us now about *your* plant or truck equipment problems, or write for catalog.

Get dependable SERVICE

RENICK & MAHONEY, Inc.

SERVICE

380 Second Ave.
(at 22nd St.)
New York 10, N. Y.
Complete Equipment for the Oil Trade

SEAL WITH RECTORSEAL No. 2 and THE JOB IS DONE

• NO CALL BACKS
• NO DISGRUNTLED CUSTOMERS

Seal it and forget it. That's the true story of fuel-oil connections when Rectorseal No. 2 is the compound used. There's never any costly maintenance problem due to leaking. Rectorseal No. 2 forms a positive leak-proof connection even against jarring, vibration, or temperature changes. Yet, joints are always easy to break-out. Clean, easy-to-use Rectorseal No. 2 is thin in the can—thickens in the joint for maximum sealing efficiency. With this superior performance Rectorseal goes farther because of its smooth consistency—actually costs less to use. Why not give Rectorseal No. 2 a chance to show you the sealing job it can do.

Write for a generous Free Sample of Rectorseal No. 2.

RECTORSEAL, Dept. O
2215 Commerce Street, Houston 2, Texas

RECTORSEAL
NUMBER TWO

Thompson Morrison is elected President, Morrison Products

AT A MEETING of the Board of Directors, Morrison Products, Inc., Cleveland, O., Hunter Morrison was named to the newly-created office of chairman of the board and his son, Thompson, was elected president.

Another son, Hunter Morrison, Jr., was named executive vice-president. Other officers elected were Al Galaba, vice-president, engineering; R. W. Lowe, treasurer and assistant secretary; and Spencer Colett, secretary.

Hunter Morrison founded the company in 1923 which is now a manufacturer of blower wheels and blower assemblies for manufacturers of air-conditioning and heating equipment.

White-Rodgers marks Building 7,000,000th heating Control

OFFICERS AND EMPLOYEES of White-Rodgers Electric Co., St. Louis, Mo., recently celebrated the completion of the company's 7,000,000th Hydraulic-Action Control.

The control was introduced in 1937. The temperature sensing element is completely filled with a liquid which expands and contracts against a diaphragm with changes in temperature, thus exerting force and movement to be transmitted to the switch which may

White-Rodgers *president, James A. Rodgers, and sales manager, Russ Sherer, accept a 24-karat gold-plated control from Carl Havermans, production vice president. This represented the 7,000,000 hydraulic-action control to come off White-Rodgers assembly lines since its introduction in 1937.*

NEW REVOLUTIONARY

POSITIVE

FILL PIPE SEAL

AN ANSWER TO YOUR PROBLEMS

★ Its positive seal is insurance against costly damage due to water.

★ Takes only seconds to remove with your fingers—no wrenches needed.

★ On new installations you save the cost of threading fill pipe.

★ Old installations can be protected against water without renewing worn and rusty fill pipe threads.

★ No threads needed—just push in and twist and your tank is doubly sealed.

★ Can be locked against theft or tampering by children.

★ Fits to lawn level which permits mowing grass over pipe.

★ Eliminates costly lawn repair when replacing worn out fill pipe threads.

★ Your name and phone number embossed on face of seal FREE in gross lots.

WRITE FOR COMPLETE INFORMATION

Work's Manufacturing Co.

Manufacturers of a lawn level fill pipe seal—also a self venting tank and barrel seal.

P. O. Box 791, Vancouver, Washington

OIL BURNER IGNITION ASSEMBLIES *for* industrial and residential use

CROWN offers a complete line of standard oil burner electrode assemblies, cable assemblies, hardware, terminals and UL approved cable. Quality is the finest available. Ceramic insulators are UL approved. Prompt, efficient, reliable service on all orders—large or small.

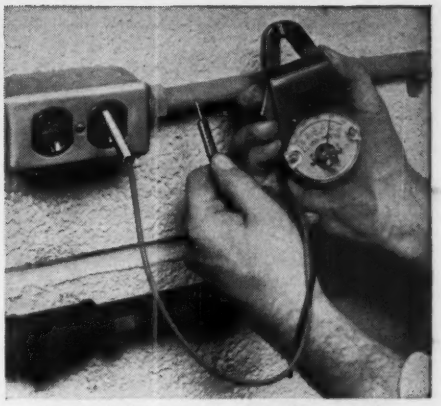
Complete Service

CROWN engineering service is complete. Call or write today for complete information on standard or custom-built assemblies. Literature on request.

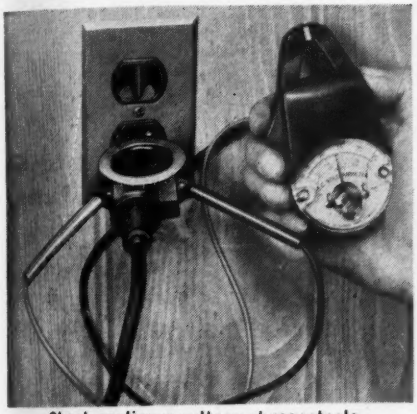
Crown Engineering
CORPORATION
KEYPORT • NEW JERSEY

Check appliance current at receptacle

Trouble-shoot relays quickly

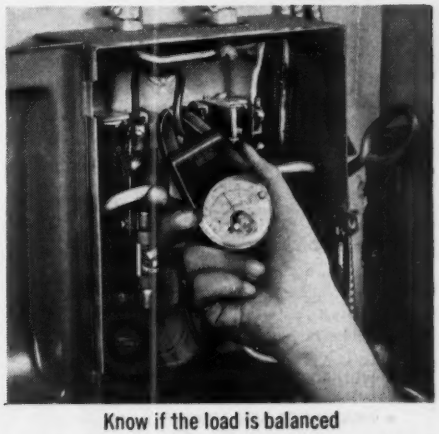


Instantly determine hot leg of receptacle



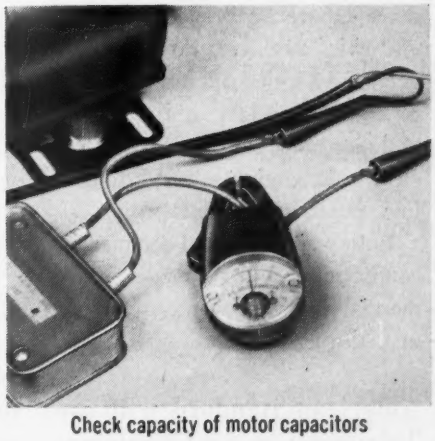
Check appliance voltage at receptacle

Instantly determine if fuses are good

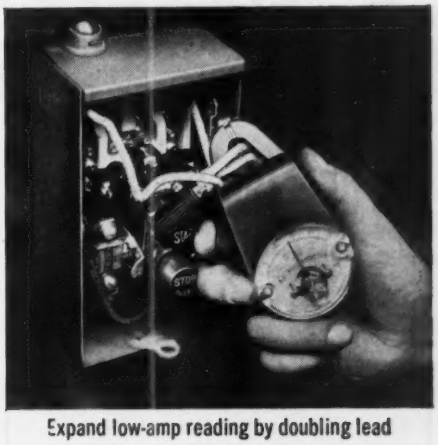


Know if the load is balanced

Know if windings are grounded



Check capacity of motor capacitors



Expand low-amp reading by doubling lead

Eliminate Guesswork!

One pocket tester measures voltage and current, with instrument accuracy, without shutting down equipment!

And the cost is only $19.85 (just a few dollars more than an ordinary voltage tester), so every man can carry one!

Pick the Amprobe Junior that fits the job. 7 models from 0-10 amps to 0-100 amps; choice of either 0-125/250 volts A-C or 0-150/600 volts A-C range. For your higher current applications, multi-range Amprobes available for 300, 600 or 1200 amperes.

See the full Amprobe line of snap-around volt-ammeters at your jobber's today.

Send for valuable Amprobe service bulletins showing many more ways to save time and money on the job with an Amprobe. Mail coupon now to: PYRAMID INSTRUMENT CORP., LYNBROOK, N. Y. (Export Div.: 458 Broadway, N. Y. 14), world's largest manufacturers of snap-around volt-ammeters.

Amprobe Jr.* *snap-around volt-amp tester* **$19.85**

*®

Send for these free Amprobe service bulletins:

Pyramid Instrument Corp., Dept. F-36 Lynbrook, N. Y.

Please send me the Amprobe service bulletins checked below:

- ☐ UL wiring standards, room conditioners
- ☐ Trouble-shooting electric motors
- ☐ How to cut costs and land more jobs
- ☐ Portable test instruments

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE____ STATE____

Proved by USE!

Works in seconds! **Loosens Rusted Bolts** nuts, screws, "frozen" parts . . . . without breakage!

LIQUID WRENCH

A powerful blend of quick-acting solvents that frees "frozen" parts without breakage. Safe for all metals and alloys.

Makes joints **LEAKPROOF!**

7 BASIC BLENDS

TiteSeal
GASKET & JOINT SEALING COMPOUND

Makes all assemblies leakproof and pressure-tight. Easy to apply with brush-in-handle.

- NON-SOLVENT—WILL NOT HARDEN
- WILL NOT SHRINK, CRACK OR CRUMBLE
- HEATPROOF AND VIBRATION-PROOF

Get them from your Automotive, Hardware or Plumbing Wholesaler!

RADIATOR SPECIALTY CO.
Charlotte, North Carolina

FUEL OIL DEALERS

Triangle is NOW

offering their latest line of Quality Built Truck Tanks with the following exclusive features:

- ★ Double Bottom Shells
- ★ Die-Formed Bucket Boxes
- ★ Fabricated Steel Tubing
- ★ Life-Time Guarantee
- ★ Victaulic Installations for Serviceability
- ★ Compactness

WRITE, WIRE or PHONE for further information

TRIANGLE TANK DIVISION Inc.
245 Russell Street
Brooklyn 22, New York

be set to operate at any desired temperature.

The "milestone" control was 24-karat gold-plated in honor of the occasion. A limited number of displays with gold-plated replicas of the 7,000,000th control are being sent to leading wholesalers throughout the United States and Canada. These displays will highlight a sales drive featuring White-Rodgers Hydraulic-Action hot-water controls, warm-air controls, heavy duty thermostats and refrigeration controls.

Allan Air Products to make air-cooled Airconditioners

ALLAN GITTLESON, president of Allan Manufacturing Co., recently announced the formation of Allan Air Products Corp., Hicksville, N. Y. The new division will manufacture air-cooled airconditioners carrying the "Allan-aire" label.

A new plant has been built to house the company. Allan Gittleson is president; Lawrence Brady, vice-president and chief engineer; Arnold H. Klein, general manager, operations; Abraham S. Zakar, secretary and assistant general manager; Gerald S. Loecher, chief electronics engineer; and Edward Collins, purchasing agent.

Both residential and commercial airconditioners will be made. The commercial line will cover a capacity range of 2 through 20 hp.

American-Standard will use Television in Ad Campaigns

AN EXTENSIVE USE of network television programs is planned during the year by the Plumbing and Heating Division, American Radiator and Standard Sanitary Corp., Pittsburgh.

Both color and black and white will be used. The first spectacular sponsored by the company was on February 26 and featured Imogene Coca. Five additional color spectaculars will feature major product promotions. Also, time has been purchased on the Arlene Francis "Home" show and Dave Garroway's "Today."

Announcement of the television plans was made at a special presentation of sales and marketing plans to each of the Division's sales districts via a closed-circuit telecast on January 17 which was beamed to 17 cities.

Appointments in sales Staff made by Lennox Industries

SEVERAL SALES, marketing and field managerial appointments were recently announced by Lennox Industries, Inc., Columbus, O.

James T. Meara was named assistant sales manager of the Columbus division. Deane Tonkin is manager of the new market research and statistical department, and Allen Georgenson is sales promotion manager.

Airconditioning field managers are Harold De Long and Allen Creekbaum. Ray O. Allison is a sales correspondent, and Norman Ray Garrett was added to the sales organization.

Hays Corp. reorganizes; annexes Metrotype Corp. of Summit, Ill.

PHIL SPRAGUE, executive vice president, The Hays Corp., Michigan City, Ind., has announced that the manufacturer of power and process instrumentation has been reorganized as a

ENGINEERING OPPORTUNITIES

in fast-growing field of residential year-round air conditioning

FRIGIDAIRE
Division of General Motors

has attractive openings with excellent advancement prospects for qualified men.

Senior Project Engineers
having at least 5 years experience.

Project Engineers
and
Test Engineers
having 2 to 5 years experience.

Engineering degree desirable but not essential

Send resume to:
Personnel Department
Frigidaire Division
General Motors Corporation
Dayton 1, Ohio

Forrest H. Tower started with gasoline in 1934 and added fuel oil the next year. In addition to a string of service stations he operates four trucks exclusively on fuel oil. He was president of Oregon Heating Industries for 1951-52.

HAVE YOU THIS *SECRET**...

never letting your customers run low on fuel?

A driver for Tower Oil Company† pulled in to deliver 300 gallons of fuel oil. The customer asked, *"What's Your Secret?* Not once in 10 years have you let me run low on fuel!"

"That's easy," said the driver, "our office is mechanized." He might have gone on to explain that Tower Oil considers its Degree-Day Kardex system is just about foolproof. Consumption record for each customer is kept in a single Kardex pocket. On the basis of this record delivery routes are set up for maximum efficiency — even to finding snowed-under fill pipes instantly! And in the office it permits one girl to get out statements for more than 1500 fuel oil accounts, as well as a growing gasoline distribution business.

Simplicity of Kardex Degree-Day System

The Degree-Day system of fuel oil delivery control tells in advance

- *(1) *Which* customers need fuel oil
- (2) *Where* they are located
- (3) *When* delivery should be made
- (4) *How* much they need
- (5) *What* kind they use

What's more, all this information is instantly available at the flip of a finger... in fact, a mere glance at the Kardex visible margins shows the name, address and when next delivery is required.

†Portland, Oregon

Increase Profits... Reduce Costs

This Kardex Degree-Day system gives you at a glance the information to greatly improve your service... to effect important economies. You can cut delivery costs through better routing ... reduce "outs" and expensive special trips. You will actually sell fuel oil at a bigger profit since customers' needs are filled "automatically."

Get the fully detailed story on Tower Oil Co.—"The Automatic Office"— circle SP-KD4380 on the coupon . . . also, folder KD778 — "What Every Fuel Oil Dealer Should Know About Cost-Saving Delivery Control."

Remington Rand, Division of Sperry Rand Corporation
Room 2402, 315 Fourth Avenue, New York 10, N. Y.

Kindly send literature circled: SP-KD4380 KD778

NAME_____

TITLE_____

FIRM_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

Remington Rand

DIVISION OF SPERRY RAND CORPORATION

result of annexing the Metrotype Corp., Summit, Ill.

Metrotype now occupies a new plant near Hays in Michigan City. In the new setup there will be a Hays Division and a Metrotype Division. Donald R. Schoen has been named manager of the Hays Division. Robert E. Navin will manage Metrotype.

Regional sales Meeting held by Bryant in Atlantic City

MORE THAN 100 DISTRIBUTORS and their personnel from eastern, southeastern and central sales regions attended a one-day sales meeting sponsored by the Bryant Division, Carrier Corp., Syracuse, N. Y., in Atlantic City recently.

They were given a preview of Bryant's 1956 product line and advertising program for the year. New dealer sales promotions and sales training programs were also explained.

Richard N. Jones, *House and Home* magazine, spoke on developments in the home building industry at the meeting.

HOW ABOUT THAT ?

THE BIG PROGRAM BOYS ARE ALWAYS HOWLING FOR THE FRESH APPROACH...
WHAT THE OIL HEATING BUSINESS NEEDS IS NEW IDEAS... NEW FORMULAS... NEW FACES... SO I SAY... OUT WITH THE OLD... IN WITH THE NEW !!
ASPIRIN, L.B.!
THAT'S WHAT I ALWAYS SAID!
L.B. IS RIGHT!
I'LL BUY THAT!

BUT...LET A NEW FACE WITH A NEW IDEA GET PAST THE RECEPTIONIST AND WHAT HAPPENS?
SCRAM!! YOU AND YOUR NEW IDEAS! YOU CAN'T TELL US ANYTHING ABOUT OIL HEAT! WE KNOW ALL THERE IS TO KNOW!
OF COURSE
RIGHT, CHIEF!
H.T. Elrod

Conferences for sales Managers are sponsored by Iron Fireman

THREE CONFERENCES for district sales managers have been held in Cleveland, Toronto and Portland, Ore., by Iron Fireman Manufacturing Co., Cleveland, O.

C. T. Burg, vice president, outlined sales plans for 1956 and Wayne Strong, president, told of the expanded activities of the product development department.

Iron Fireman dealers now can offer customers year 'round airconditioning and individual room temperature control with the SelecTemp heating system, combined with individual built-in room cooling units, it was announced.

Record advertising Campaign planned by Eureka Williams

GENERAL, SHELTER and trade magazines will be used by Eureka Williams Corp., Bloomington, Ill., in its 1956 record first half advertising campaign. Local newspapers and radio on a cooperative basis also will be used.

The Williams Dealerama, three caravans bringing the company's new line of burners, boilers, furnaces and airconditioning equipment to heating dealers, was announced with four-page inserts in trade magazines.

First national magazine advertising on the product line will appear late in March following completion of the Dealerama showings to the trade.

Peerless Distributor sponsors Meeting for Pittsburgh Dealers

APPROXIMATELY 150 heating and airconditioning dealers in the Pittsburgh trading area attended a sales meeting in nearby Wilkinsburg sponsored by Myers Furnace Supply Co., Inc., distributor for Peerless Furnace & Foundry, Inc., Indianapolis, Ind.

C. U. Mutz, Peerless sales manager, presided during the sessions and introduced the company's new heat pump. Installing and field-charging the 1956 Clima-Twin-Aire remote air-cooled airconditioning line was demonstrated.

Peerless regional sales personnel, engineers and advertising people took part in the first of several regional sales meetings.

UNSEEN QUALITY - - -

IN SID HARVEY'S WATER FEEDER REBUILDING

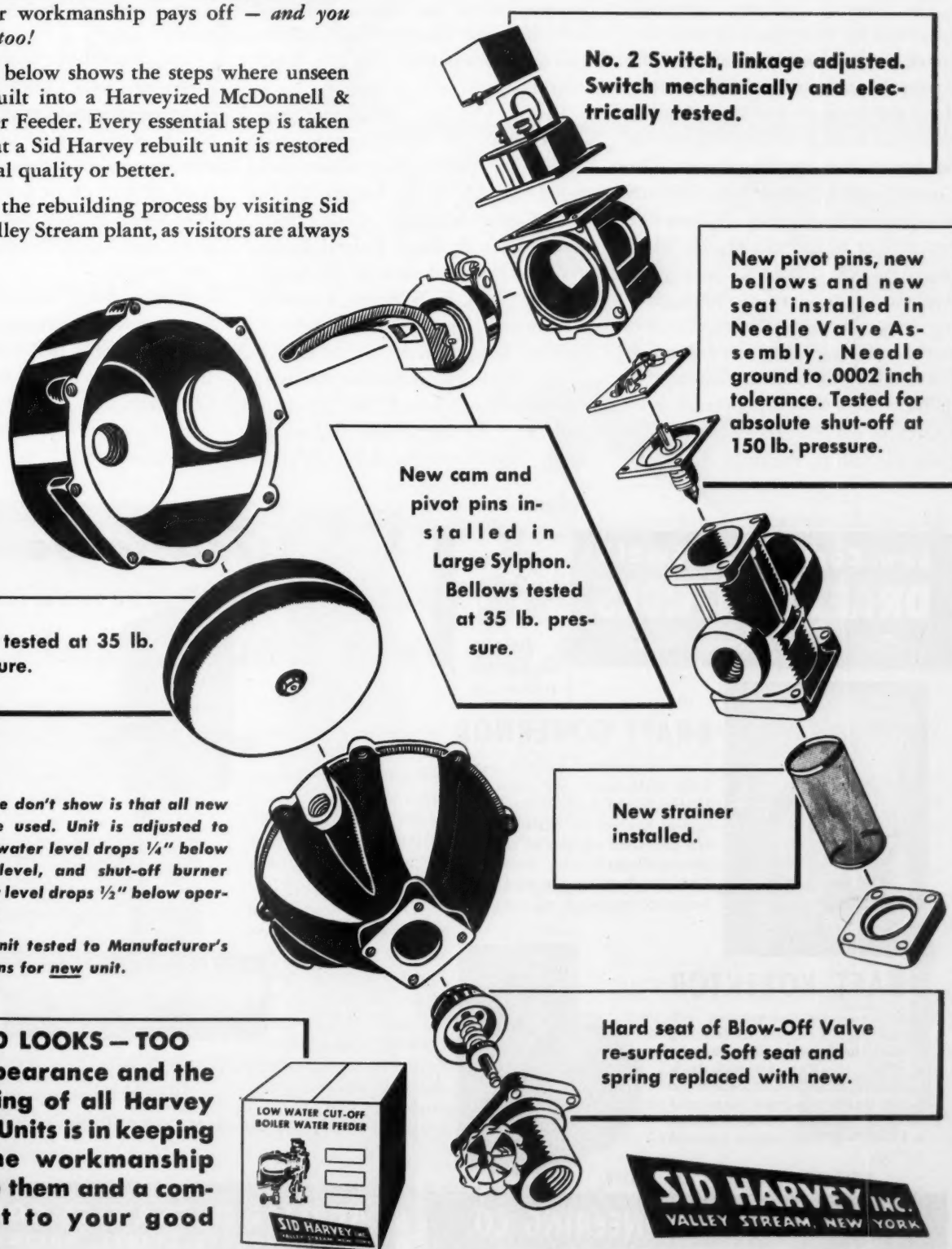
The safety of a defective water feeder can be restored only when the work you CAN'T SEE is properly performed.

But, you can see the difference once you start using Sid Harvey Rebuilt units. Long life, dependable performance and freedom from "call-backs" is how this superior workmanship pays off — *and you save money too!*

The picture below shows the steps where unseen quality is built into a Harveyized McDonnell & Miller Water Feeder. Every essential step is taken to insure that a Sid Harvey rebuilt unit is restored to its original quality or better.

You can see the rebuilding process by visiting Sid Harvey's Valley Stream plant, as visitors are always welcome.

All Castings cleaned, refinished or replaced.



No. 2 Switch, linkage adjusted. Switch mechanically and electrically tested.

New pivot pins, new bellows and new seat installed in Needle Valve Assembly. Needle ground to .0002 inch tolerance. Tested for absolute shut-off at 150 lb. pressure.

New cam and pivot pins installed in Large Sylphon. Bellows tested at 35 lb. pressure.

Float tested at 35 lb. pressure.

But what we don't show is that all new gaskets are used. Unit is adjusted to feed when water level drops ¼" below operating level, and shut-off burner when water level drops ½" below operating level.

Complete unit tested to Manufacturer's Specifications for new unit.

New strainer installed.

Hard seat of Blow-Off Valve re-surfaced. Soft seat and spring replaced with new.

GOOD LOOKS — TOO

The appearance and the packaging of all Harvey Rebuilt Units is in keeping with the workmanship put into them and a compliment to your good service.

SID HARVEY INC.
VALLEY STREAM, NEW YORK

NOW 41 SID HARVEY STORES TO SERVE YOU

Heating-Cooling Council completes Organization

"ORGANIZATION for immediate action" of the Better Heating-Cooling Council was announced on February 17 by President John E. Reed. He explained the action as one that culminates years of effort and desire to unify the hot water and steam heating and cooling industry's basic promotion efforts.

The Council's purpose, currently subscribed by more than 30 manufacturers, is to inform and educate the public, the trade and building industry about the advances and advantages of water-fed heating and cooling systems for homes and small buildings. The Council's current drive for additional members and funds aims at a campaign budgeted at $250,000 annually. More than $100,000 already has been raised Reed said, with "total success depending upon total support from all factors in the industry." Membership in the Council is open to manufacturers, to industry wholesaler and contractor associations, national, regional and local.

In addition to President Reed, officers of the Council are: Paul K. Addams, vice-president; R. S. Rickabaugh, vice-president and Robert E. Ferry, general manager, Institute of Boiler and Radiator Manufacturers, secretary-treasurer. Franklin Greene, who has been publication relations director for the Institute of Boiler and Radiator Manufacturers, has been appointed executive director.

A new Council board of directors has been elected and a Public Relations Advisory and Membership Committees have been named. The new board consists of:

Paul K. Addams, Fitzgibbons Boiler; Carroll M. Baumgardner, National-U.S. Radiator Co.; Owen Desmond, Modine Mfg.; George L. Erwin, Crane; Virgil A. Good, Burnham; James H. Legg, Federal Boiler; Daniel Quinn, American-Standard; John E. Reed, H. B. Smith; Robert S. Rickabaugh, Tuttle & Bailey; John H. White, Taco Heaters.

On the Public Relations Advisory Committee are: John H. White, chairman; M. J. Druse, Modine; Robert W. Lear, American-Standard; Warren Logelin, Crane; Harold A. Marshall, Warren Webster; John E. Reed and William Spiess, Fitzgibbons Boiler.

On the Membership Committee are: James H. Legg, chairman; Charles E. Towner, Crane, vice-chairman; Robert M. Stockwell, Weil-McLain; Owen Desmond.

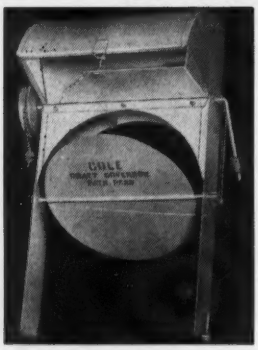
The Council's temporary address is 608—5th Ave., New York and while its permanent location will be in New York, Council offices have not been selected yet.

President Reed characterized the formation of the Council as a "step of outstanding significance in this industry. It marks the first time in our 100 year history that member companies from all four major trade associations have joined in an industry-wide, common organization dedicated to a common purpose."

Participating organizations are: Convectors Manufacturers Association; The Steel Boiler Institute; The Institute of Boiler and Radiator Manufacturers and the Gas Boiler Division, Gas Appliance Manufacturers Association.

Low Cost COLE-SEWELL
DRAFT CONTROLS
Outlast, Outperform Others

GUARDING HEATING COSTS 24 HOURS A DAY



DRAFT GOVERNOR

A simple, positive, easy to install, fully automatic and approved control for oil burners. Permits no loss of heated air from building. No excessive cooling of chimney. Seven domestic sizes from 6" to 12" . . . Both square and round industrial models in all sizes.

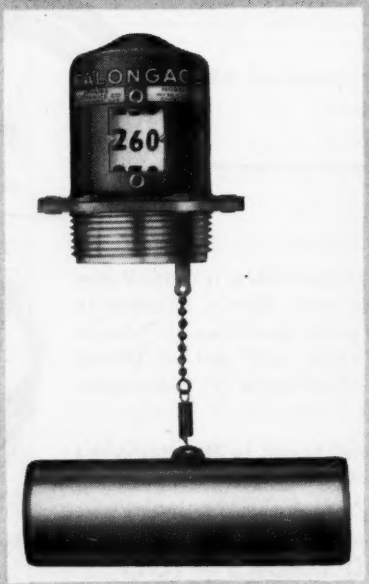
DRAFT KOREKTOR

Long famous for fuel economy with domestic space heaters. Close fitting counterbalanced blade prevents leakage and stays closed until draft reaches ideal minimum. Sensitive, finger-tip outside adjustment. Many other important features. Domestic models in 4"—5"—6" sizes. Industrial models 14" up.

ASK YOUR JOBBER OR WRITE

COLE-SEWELL ENGINEERING CO.
2288 UNIVERSITY AVE., ST. PAUL 14, MINN.

Galongage



The "Extra"
your customers will gladly buy!

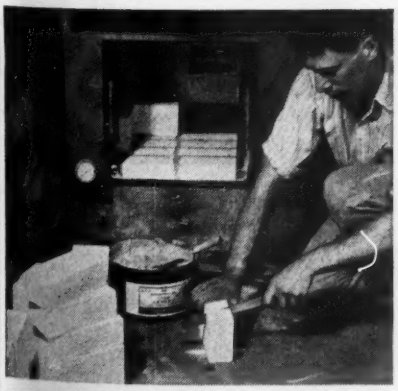
A quality product by

APPLIED MECHANICS COMPANY
381 CONGRESS STREET, BOSTON, MASS.

"I'm a prize winner at heating up faster... thanks to J-M Insulating Fire Brick!"

"Yes, my 'skin-heat-in-seconds' always gets you on the job in a hurry and saves fuel!"

J-M *Insulating* Fire Brick build fireboxes easier, faster—and save up to 10% on fuel



Building an oil burner firebox quickly and easily with J-M Insulating Fire Brick. Laboratory tests prove that these brick lower fuel consumption as much as 10%. That's because they provide "skin-heat-in-seconds." Within seconds after the burner goes on, the entire inside surface of the firebox is white-hot.

Here's a sure way to transform any oil burner into a champion at heating up fast and saving fuel. Build its firebox with J-M Insulating Fire Brick. They provide a skin-deep curtain of white-heat intensity *within seconds after the burner goes on!*

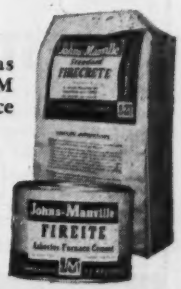
They will make the burner cleaner and quieter, too. They not only retard soot, smoke and odor . . . but their lightweight cellular construction holds operating noise to a minimum.

You'll find J-M Insulating Fire Brick easy to install. They can be cut quickly with a hacksaw blade to build any shape or size firebox specified by the oil burner manufacturer. Recommended brick for domestic oil burner fireboxes are JM-20, JM-23, and JM-26. For industrial use . . . JM-28 and JM-3000.

See your J-M Distributor for further information about these easy-to-use brick that heat up faster, save more fuel. Or write to Johns-Manville, Box 60, New York 16, N. Y. In Canada, 199 Bay Street, Toronto 1, Ontario.

For sealing against gas and air leaks, use J-M FIREITE* Asbestos Furnace Cement. For lining hearths of rotary burners, use J-M STANDARD FIRECRETE*—a hydraulic setting refractory — ready for use in 24 hours.

*Reg. U.S. Pat. Off.



Johns-Manville INSULATING FIRE BRICK

For "Skin-Heat-in-Seconds" in Fireboxes

Names in the News

(*Begins on page 6*)

John F. Glump has been elected to the board of directors, Econo Products Co., East Haddam, Conn. He was also promoted to vice-president in charge of sales and advertising for Econo and its parent company, Viking Instruments, Inc. He will direct sales for the line of hot water circulators, low water cut offs, and other heating specialties.

Charles A. Reichelderfer has been appointed director of engineering, Waterman-Waterbury Co., Minneapolis, Minn. For the past eight years he had been director of engineering, Norman Products Co., and prior to that had been associated with Battelle Institute of Research, Columbus.

William W. Follett has been named regional sales manager, Williams Division, Eureka Williams Corp., Bloomington, Ill. He will direct the sales of home heating and airconditioning equipment in an eleven-state area in the East with headquarters in New York City.

David D. Gordon has been appointed sales manager, Fulton Sylphon Division, Robertshaw-Fulton Controls Co. for the Los Angeles district. *W. J. Hajek*, former Los Angeles manager, has been transferred to Chicago. Product lines handled by the office include metal bellows and bellows assemblies, pressure and temperature regulators.

A. Clark Daugherty, former market research manager, has been named assistant to the president, Rockwell Manufacturing Co., Pittsburgh. The market research, public relations and stockholder information departments will continue to report to him. Daugherty joined the company in 1946. He became a market analyst in 1947.

Jay E. Oberman has been elected president and *John L. Rausch* elected secretary of Keystone Oil Products Corp., Camp Hill, Pa. *Herman E. Oberman* will continue with the company in a consulting capacity and as vice president and treasurer.

L. H. Hoelter has been named to the newly created post of manager, Builder Sales Department, Permaglas Division, A. O. Smith Corp., Milwaukee, Wisc. He joined the company in 1941 and has headed the North Central regional office in Chicago for Permaglas since 1944.

William F. Treffinger has been named manager, Morrison (Ill.) plant, Herman Nelson Division, American Air Filter Co., Louisville, Ky. He succeeds *Robert Bryan* who resigned. The Morrison plant manufactures unit blowers, heating and ventilating units, industrial airconditioners, portable heaters, and home air filters.

Elbert M. Palmer has been named president, Kewanee Boiler Division, American Radiator & Standard Sanitary Corp., Kewanee, Ill. He succeeds *William Bradford Russell*, who is retiring from active service with the Division but will continue to assist in a consultive capacity. Palmer joined Kewanee in 1926 and most recently has been executive vice president of the Division.

More for your Money in
MORYSVILLE
Morysville U-2 for ½, ¾ or 1 ton chassis
BEST BODY - BEST BUY
• 14 and 16 ga. Body Steel (14 ga. throughout for models rated 1 ton up—19 ga. doors)
• 12 ga. Diamond Floor Plate
• Heavy U-Channel Understructure
• Electric Welded throughout
• Telescoping Roof and Hinged Gate
• Full-length Hinges with Brass Pins
• Solidly Framed Doors and Panels
• Recessed, Spring-loaded Latches with Individual Locks or Master Locking Device
• Fendix Undercoating (No Extra Charge)
IMMEDIATE DELIVERY • Distributors in Principal Cities
"BODIES YOU CAN DEPEND ON" TO LAST INDEFINITELY
MORYSVILLE Body Works INC.
813 SOUTH READING AVE., BOYERTOWN, PENNA

Stop Oil Leaks
...in oil storage tanks, pipes or containers, oil-filled transformers... even while oil is flowing!
OYLTITE-STIK
Here is the quick new way to stop oil leaks instantly. Just rub OYLTITE-STIK into the leak and it's sealed. Doesn't become brittle; is not affected by heat or cold; withstands normal vibration. On every job, every service call, take OYLTITE-STIK along. See your jobber, or write us for full information.
LA-CO BRAND
LAKE CHEMICAL CO.
3086 W. Carroll Ave., Chicago 12, Ill.

BOSTON DRAFT STABILIZER

WORLD'S MOST ACCURATE DRAFT CONTROL

GUARANTEES CONSTANT DRAFT

and protects your heater against draft variables that destroy efficiency!

NOW AVAILABLE

in 6", 7", 8", 9" and LARGER SIZES up to 24".

All available with or without TEE section.

TOPS in ability to hold draft yet the EASIEST to install.

NO WEIGHTS TO ADJUST

Can be properly set, even without instruments.

OPERATE YOUR HEATER AT PEAK EFFICIENCY WITH ACCURATE DRAFT CONTROL

BOSTON DRAFT STABILIZER

1. Slows down travel of gases thru the heater to a desired CONSTANT speed so heater can absorb the heat before it reaches the stack.
2. Holds a constant draft because variations in draft-pull result in changes of air delivery from the burner fan, causing changes in smoke content and CO_2 of your combustion.

Write for complete details

BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division, 7-17 Willow St., Lynn, Mass.

"Instrument check-ups open the doors to profitable equipment sales."

The **FYRITE** Combustion-Testing **SERVICE KIT**

. . QUALITY INSTRUMENTS that Pay for Themselves

The FYRITE Service Kit provides a complete set of accurate, quality-built combustion-testing instruments at the lowest cost. It includes the FYRITE CO_2 Indicator which is unsurpassed for fast, accurate flue gas analysis; and also contains the popular DRAFTRITE Draft Gauge and the 950° F. mercury Stack Thermometer, all packed in a sturdy steel instrument chest.

The chest is equipped with brackets for the mercury thermometer, and the TEMPOINT 200°-1000° F. Dial Thermometer shown at the right which may be substituted for the mercury thermometer at slight extra cost.

Ask your Jobber or Write for Bulletin 730

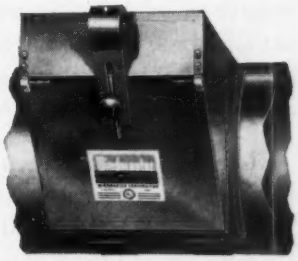
BACHARACH Industrial Instrument Co.

7301 PENN AVENUE • PITTSBURGH 8, PA.

Windmaster® The Modern Draft Control that's *"QUICKER ON THE DRAW"* and *"FASTER In The SADDLE"*

Windmaster Corporation

43 Vine St.
Columbus 15, Ohio



FREE...FREE 1lb. Trial Package

E-Z SOOT DESTROYER

For Fuel Oil Soot Only

When you see how completely one application of E-Z Soot Destroyer removes fuel oil soot you'll always use it. It will save you hours of time and make cleaning jobs profitable instead of a nuisance. Your customers will be happier too, because E-Z Soot Destroyer does an efficient cleaning job without fuss or muss. And for extra profits, sell E-Z Soot Destroyer to your customers . . . there's a liberal dealer discount.

No. 1 Pkg. (1 lb.) Retail Price—$1.50
No. 5 Pkg. (5 lb.) Retail Price—$6.25

Special discount to jobbers on quantity purchases.

Mail the coupon TODAY for your FREE TRIAL PACKAGE.

NORMAN CHEMICAL CO.
1700 Roblyn Ave., St. Paul 4W, Minnesota

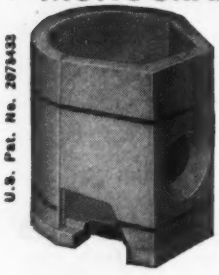
Please send One Pound FREE TRIAL PACKAGE of E-Z Soot Destroyer and the name of my nearest jobber.

NAME .....
ADDRESS .....
CITY ..... STATE .....

LITE·CAST
COMBUSTION CHAMBERS
QUICK HEAT LONG LIFE

TONGUE & GROOVE JOINTS
•
HIGH SIDE WALLS
•
DOUBLE SEAL BETWEEN FLOOR & WALLS
•
PRE-CAST FLOOR
•
AIR SPACE BENEATH FLOOR

MONOGRAM has...



U.S. Pat. No. 2078433

137 Standard Designs and sizes of LITE-CAST Insulating Refractory Combustion Chambers for ALL Boilers and Furnaces.

.75 TO 12 GALLONS PER HOUR

MONOGRAM PRODUCTS CO., INC.
731 NORTH 35th STREET, PHILADELPHIA 4, PA.

SOOT A WAY

CLEANS ALL OIL & GAS FIRED FURNACES — BOILERS

Harmless to A Heating Plant
Removes Soot Down to Metal

AVAILABLE—1½, 3, & 25 LB. SIZES

DEALERS—JOBBERS INQUIRE

AMBER-ROSE INDUSTRIES
3118 NO. MILWAUKEE AVE.
CHICAGO 18, ILLINOIS

Elston J. Tribble and *Aloysius M. Tullo* have been elected vice-presidents of Worthington Corp., Harrison, N. J. Tribble, former assistant vice-president-manufacturing, will have general supervision of Worthington's operating divisions. Tullo will continue as general manager of the Harrison division.

Herbert Rollins has been appointed national service manager, Magic Chef, Inc., St. Louis, Mo. He had been service manager and production manager, Radio Corp. of America.

R. L. Forsberg has been appointed comptroller, Airtemp Division, Chrysler Corp., Dayton, O. He has been with the company for 20 years and became assistant comptroller in 1954. He succeeds *R. F. Bertram* who retires April 30.

George A. Williams, Jr., has been promoted to manager of the Detroit factory branch, General Controls Co., Glendale, Calif. He had been assistant manager of the branch. Other appointments by the company include: *R. C. "Bob" Servat* now manager of the Houston, Texas, branch had headed the New Orleans office. *Byron B. Spinney* has been named regional representative for the New York office.

William J. Millett has been appointed assistant vice president in charge of manufacturing, Air Conditioning and Refrigeration Division, Worthington Corp., Harrison, N. J. He has been with the company 42 years, most recently as works manager at the Holyoke Plant.

C. E. Skinner has been named coordinator of marketing, Gulf Oil Corp., Pittsburgh. He succeeds *R. A. Hunter,* recently appointed general manager, retail and jobber sales, Domestic Marketing Department.

Taylor G. Nelson has been appointed sales manager, Appliance Controls Division, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. His assignment will be concerned primarily with sales of water heater controls, but additional appliance controls sales activities will eventually be brought under his supervision. Nelson was formerly eastern appliance controls sales manager for Honeywell. The Division is headquartered in Gardena, Calif.

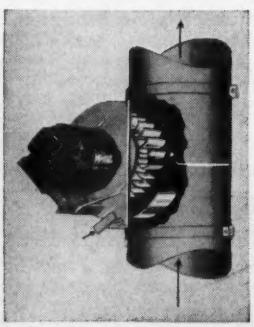
Richard E. Heaven appointed regional sales manager, Thatcher Furnace Co., Garwood, N. J. His territory includes Eastern Pennsylvania, Washington, D. C., Virginia, Maryland, North and South Carolina and Delaware.

S. Byron Stone has been made advertising and sales promotion director, Typhoon Air Conditioning Co., Inc., Brooklyn, N. Y. He has been associated with the advertising field for the past 15 years.

C. J. Murphy, formerly field sales manager, is now sales manager, Superflame Appliance Division, Queen Stove Works, Inc., Albert Lea, Minn. The Division manufacturers oilfired heaters.

CURE DRAFT TROUBLES

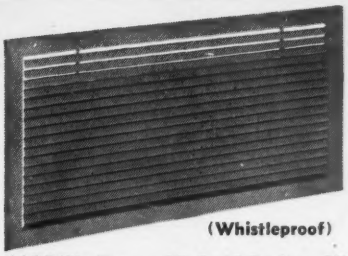
TJERNLUND
"Auto Draft" Inducer



No smokepipe obstruction, just cut a rectangular slot in smokepipe and band on.
Can be mounted horizontally or vertically.

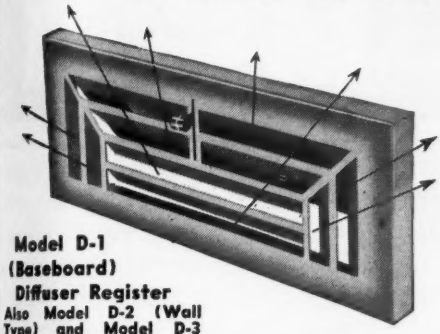
Save *Fuel, Service Calls,* Customer Goodwill

TJERNLUND MFG. CO.
2140 Kasota, St. Paul 14, Minn.



(Whistleproof)

MODEL R — High Velocity, High Efficiency Return Air Grille. 89% Free Area. Any Size Desired.



Model D-1 (Baseboard) Diffuser Register
Also Model D-2 (Wall Type) and Model D-3 (Out-of-Wall Type)

SIZES:

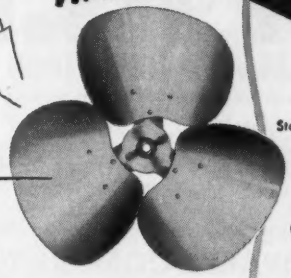
10x4	12x4	14x4
10x5	12x5	14x5
10x6	12x6	14x6

Besides Diffuser Type registers the National Line includes all types and sizes of registers and grilles. **Write for Catalog.**

National GRILLE AND REGISTER CO.
3169 East 80th Street Cleveland 4, Ohio

HURRICANE WARNING!

WHEREVER AIR IS MOVED THERE'S A BRONSON FAN BLADE!



Bronson
HURRICANE
SEMI-PRESSURE SERIES

FAN BLADES

Here's a Hurricane that's been completely tamed but good for a blow at the flick of a switch!

RECOMMENDED FOR LOW STATIC RESISTANCE — Large area at blade periphery assures higher efficiency against low static resistances.

MINIMUM NOISE — Overlapping blades, smooth air entrance, minimum turbulence. (Neoprene hub at slight additional cost.)

STRONG RIVETED TYPE CONSTRUCTION — Individually balanced aluminum blades riveted to rigid steel spider. Channel flange adds strength. Hub mounts front or rear.

WIDE PITCH RANGES — 6° to 40° pitch range for maximum motor loading efficiency. 12", 14", 16" diameters.

For all heating, cooling or ventilating, specify BRONSON! Performance data on request.
Representatives in all important industrial areas.

Bronson FAN MANUFACTURING CORP.
Dept. FO-3, 4560 Worth St., Los Angeles 63, Calif.

Static Pressure Series
Hi-Static Series
Stinger Ring Series
Offset Series
Attic Fan Series
One Piece Series
Free Air Series

FIL-O-MATIC

TANK SIGNAL

Whistles While Tank Is Filling...
Stops Automatically When Tank Is Full!

Fast Action Air Release — Exclusive by-pass design eliminates danger of pressure-shocking tanks.

New Improved Design — engineered for years of trouble-free performance. Unconditionally guaranteed against all defects.

Lowest Cost — and it pays for itself after the first few deliveries.

Made of high-grade gray cast iron. Universal design—for 1¼" and 2" tank openings—and 1¼" vent pipe. For all tanks whether horizontally or vertically mounted.

See your local jobber or write for literature.

Patent Pending

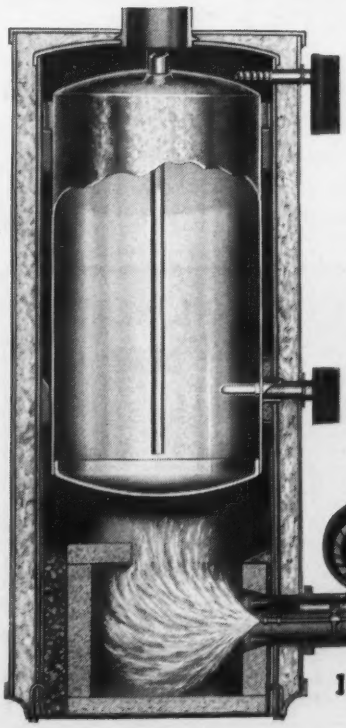
Distributor territories available.

Bonded against patent infringements.

A.C.E. ACCESSORIES
Division of Kresno-Stamm Manufacturing Co.
Palisades Park, N. J.

BOCK WATER HEATER

GLASS LINED



- Furnished with glass-lined tanks in either standard or A.S.M.E. weight.
- Sectional combustion chamber. Taken in and out of inspection door.
- Use No. 2 oil, same as in your furnace.
- Wide public acceptance, 26 years making good oil water heaters.
- Also a complete line of large heavy-duty oil or gas-fired water heaters. For schools, apartments, and public buildings.

BOCK CORP.
110 S. DICKINSON ST.
MADISON 4, WIS.

IT'S FREE!
HYDROVALVE'S NEW 1955 CATALOG
Completely Illustrated with Oil Burner Service Parts and Tools
- Fuel-Unit Parts
- M. H. Control Parts
- Electrodes
- Gaskets
- Bellows
- "Controlled Tension" Ignition Wire Terminals
- Service Tools
- Shaft Seal Assemblies
- Accessories

Available from Your Jobber or write for your FREE Catalog To-day.
HYDROVALVE COMPANY, Dept. F.
1319 UTICA AVE., BROOKLYN 3, NEW YORK
BUckminster 4-1330

Customer Turnover

(*Begins on page 70*)

7. Those who dropped us for miscellaneous reasons which we can't determine may raise the percentage of losses in any of the brackets shown above.

Is this turnover of accounts caused by policies which we should change?

Should we have a more flexible price policy on oil?

Is our heavy promotion of All-Inclusive Service causing us to drive away accounts who think they can't afford it?

Should we put on more salesmen to keep contact with our present accounts? We now have one salaried man for each 1,000 accounts. Their job is to secure new fueloil customers, sell new burners to builders and homeowners, collect overdue accounts, answer complaints and chase the 15% to 20% of our contract customers who are not on automatic renewal and don't sign their current year's contract after three direct mail letters have been sent. Our present sales force never calls on a customer unless there is trouble.

We try through providing absolute top burner service and delivery service to build up customer satisfaction. Is this the wrong approach?

Automatic renewal contracts, good service and consistent newspaper advertising costing about $2.35 per account per year have been the main contacts with our present customers.

As can be seen a breakdown and analysis of the reasons why fueloil customers change dealers is provocative. It raises questions about company policies and practices that call for study. We've found the questions all right and we feel that with the knowledge this study has given us, we're well along in our quest for the answers.

And, incidentally, I'd like to see some Letters to the Editor from other dealers who have critically examined their own customer turnover.

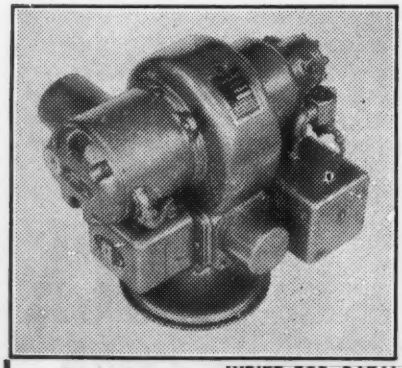
❖

Richard G. Bolling has been appointed district engineer in the Virginia-North Carolina area by Marlow Pumps Division, Bell & Gossett Co., Midland Park, N. J.

A. Lachlan Reed has been appointed director of industry-education relations, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. He had served as special assistant to the U.S. Commissioner of Education, Washington, D. C.

James Blanton has been appointed general manager, Stoddard Industries, Inc., Chicago. He had been general sales manager for the company which manufactures electrostatic air filters and plastic filters.

Alwin B. Newton, chief design engineer and member of the board of directors, The Coleman Co., Inc., Wichita, Kan., has been elected vice president in charge of all phases of design and research. He succeeds *Boyd W. Tullis* who recently retired. Although Tullis has reached retirement age he will remain with the company as special assistant to the president and on the board of directors. Newton's background in the industry includes service with Chrysler Airtemp, Minneapolis-Honeywell and York Corp.



OIL HEAT is BEST of ALL - - - - BEST if YOU INSTALL — *Weatherall*

WRITE FOR CATALOG
WEATHERALL ENGINEERS, INC.
478 Smithfield Ave.
Providence, Rhode Island

RAJAH TERMINALS
FOR OIL BURNER SPARK PLUG IGNITION CONNECTIONS
Made in Two Styles
CRIMP TYPE and SOLDERLESS

Code No. C/T #11 Code No. S-SOS #11
THE RAJAH CO., 35 Verona Ave., Newark, N.J.